

# The BULLETIN

American Association of  
Hospital Pharmacists



THE BULLETIN IS AN OFFICIAL JOURNAL OF THE AMERICAN ASSOCIATION OF HOSPITAL PHARMACISTS  
CONTAINS ADMINISTRATION, CLINICAL, AND GENERAL DRUG INFORMATION  
PUBLISHED BY THE AMERICAN ASSOCIATION OF HOSPITAL PHARMACISTS  
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# LETTERS

DEAR SIRs: . . . May I say what a personal pleasure it was to be able to meet so many of our American colleagues and to discuss mutual problems. British hospital pharmacists look forward with pleasure to being able to welcome again their overseas friends at the 1955 London Conference of the International Pharmaceutical Federation.

A. G. SHAW, *President*

*Guild of Public Pharmacists  
London, England*

## Information Requested

DEAR SIRs: One effect of our National Health Service is that provincial hospital groups are carrying a full complement of senior medical staff who are always on the lookout for new technics, methods and products. I find that most of the new pharmaceuticals have a U.S. source although many of them are released a little prematurely by our standards and others are unnecessarily elaborate and consequently, expensive. However, I would very much like to be informed and your BULLETIN would help me very much. I wonder if we could subscribe to it and could you, tell us about other publications which give information about new products.

J. FOGG, *Chief Pharmacist*

*Burnley General Hospital  
Burnley, England*

DEAR SIRs: I am chief pharmacist in this five hundred bed tubercular Veterans Hospital. I am interested in becoming a member of the AMERICAN SOCIETY OF HOSPITAL PHARMACISTS and would appreciate your sending me the necessary forms.

I also wonder if you could give me some information about types and sizes of high speed colloid mixers for making ointments, pastes and creams for a hospital of this size, along with the names of manufacturers.

WALTER M. MANKUNOS, *Chief Pharmacist*

*Veterans Hospital  
Sunmount, N. Y.*

## Sends Back Issues

DEAR SIRs: I am mailing to you via Parcel Post several copies of early numbers of THE BULLETIN as mentioned in the September-October issue of your publication. I hope that these will be of some use to you in filling the requests of libraries and individual hospital pharmacists.

Thank you for the splendid copies issued in recent years. THE BULLETIN helps very much to keep me up with the profession of Pharmacy.

SISTER MARY COSMAS, *Pharmacist*

*Loretto Motherhouse  
Loretto, Ky.*

## Reprints of Minimum Standard

DEAR SIRs: I would appreciate receiving six copies of the reprint of the *Minimum Standard for Pharmacies in Hospitals* which appeared in THE BULLETIN (Jan.-Feb.) 1950.

PATRICK F. BELCASTRO, *Assistant Professor  
The Ohio State University  
College of Pharmacy  
Columbus, Ohio*

EDITOR'S NOTE: Reprints of the *Minimum Standard* are available without charge from the Division of Hospital Pharmacy, American Pharmaceutical Association, 2215 Constitution Ave., N.W., Washington, D. C. Also available are copies of the Proposed Point Rating Plan for evaluating pharmacy services in accordance with the *Minimum Standard*.

## Appreciation

DEAR SIRs: Under separate cover we are returning the five hospital formularies which you were so kind as to loan to us. These were of much value to us and we appreciate your assistance.

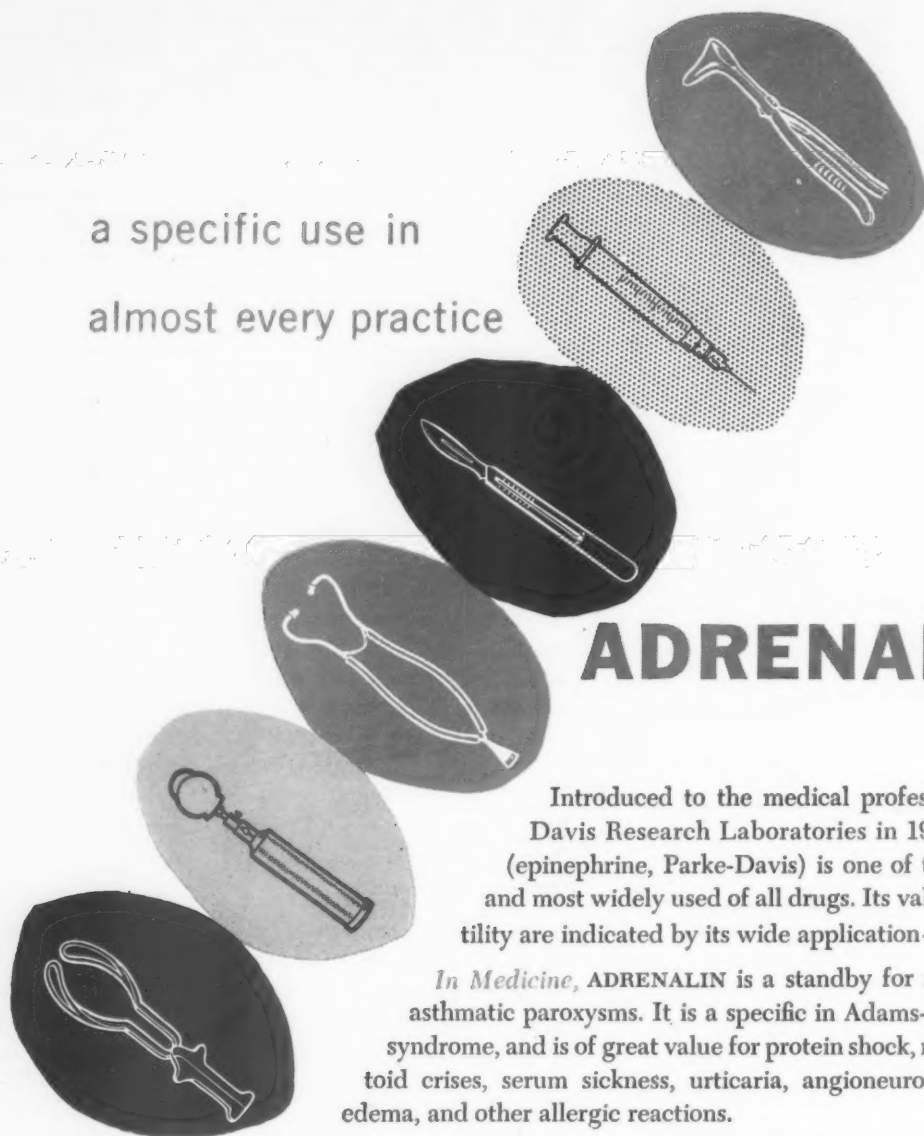
RUFUS R. LITTLE, M.D., *Superintendent  
Bergen Pines County Hospital  
Paramus, N. J.*

## From Great Britain

DEAR SIRs: . . . I can only say that if you and your colleagues derived any pleasure and satisfaction from your visit to London, this was more than surpassed by our own gratification at having our American friends with us. We shall certainly look forward to the next time and in the meantime I will pass on your message to those concerned.

F. W. ADAMS, *Secretary and Registrar  
The Pharmaceutical Society of Great Britain  
London, England*

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## PHARMACY SERVICE IN SMALL HOSPITALS

by DON E. FRANGKE

One of the major objectives of the AMERICAN SOCIETY OF HOSPITAL PHARMACISTS is to bring a well organized and efficient pharmacy service in hospitals regardless of their size or type. Thus far, major progress has been made in general hospitals with more than 250 beds and considerable improvement has been made in those hospitals with more than 100 beds. But the greatest need for better pharmacy service lies in those hospitals with less than 100 beds. The magnitude of this problem is readily apparent when one considers that two-thirds of the nation's approximately 6600 hospitals have less than 100 beds. The task of bringing pharmacy service to these 4400 hospitals is by no means a minor one.

The impetus of the rapid growth and development of hospital pharmacy is already showing its effect with an increase in the number of pharmacies in small hospitals. For example, in 1952 the number of pharmacies in hospitals with 50 to 99 beds increased 5 percent over the previous year raising the percentage of hospitals of this size with pharmacies to 43 percent. In 1947 only 29 percent of these same hospitals had pharmacies. However, in spite of this gain there remains much to be done particularly in an evaluation of the type of pharmacy service available. Furthermore, the only available statistics do not clearly define what is meant by a pharmacy and undoubtedly there are many instances where the unit is not a pharmacy in the true sense of the term but is rather a drug room in charge of unlicensed personnel.

This is more readily apparent when we note that by the same statistics the number of pharmacies in hospitals of less than 50 beds has increased from 12 percent in 1947 to 23 percent in 1952. Again, it is probable that these figures tell only a part of the story and that in some cases they represent true pharmacy service while in others they do not.

To date, little direct effort has been made to bring pharmacy service to the smaller hospitals, particularly those with less than 50 beds. This is an area which represents an exceptional opportunity for retail pharmacists to extend their professional services. However, only in one or two states has a concerted effort been made to encourage retail pharmacists to give pharmacy service to small hospitals. The greatest accomplishment in this direction has been made in Indiana

where the supervision of hospital pharmacies is under the board of health rather than the board of pharmacy. Acting under policies promulgated by the Indiana Board of Health, Mr. Harold Jones, Pharmaceutical Inspector for the Board, has been successful in greatly improving pharmacy service to small hospitals.

However, there are several reasons why, at present, pharmacy service supplied by retail pharmacists is in most instances unsatisfactory. This is due not to inability to give the right type of service but, rather, to lack of information as to what is expected. For example, many retail pharmacists are delighted to fill all prescriptions for a hospital—but the extent of their service stops there. Hospitals are not and should not be satisfied with this. A vital part of any arrangement which hospitals may make with retail practitioners should include provisions that the pharmacist spend a certain amount of time in the hospital and that he assume certain well defined responsibilities, such as for the storage, labeling, issuance, and inspection of drugs, control of narcotics, and others. Unless this is done the hospital is not, by any stretch of imagination, receiving satisfactory pharmacy service.

More and more hospitals with 50 to 99 beds are employing a pharmacist assigned full time to the pharmacy or in many cases given additional duties in administrative work, purchasing, or a related activity. We are quite certain that it will not be many years before essentially all 75 bed hospitals will have a full time pharmacist. This will come as more and more hospital pharmacists recognize and assume their responsibilities as department heads because then they will become valuable to administration and to the medical and allied staffs.

However, one of our greatest needs is more facts upon which to build a program of action. We must determine the quality and quantity of pharmacy service that is being given, establish general agreement on the type of service which should be rendered, and proceed to determine the personnel and facilities required to do the job. Only after we obtain sound facts and develop a program based upon them can hospital pharmacy draw up a well defined plan for the future. The ASHP Committee to Study the Role of the Pharmacist in Small Hospitals has a major task in outlining a program for the Society's consideration. We are confident that Chairman Thomas A. Foster and his Committee will meet the challenge.

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RICKETTSIAS

VIRUSES

SPIROCHETES

PROTOZOA



## *the changing antibiotic spectrum*

by S. WILLIAM BECKER, JR. and HENRY WALLACE BEARD

**W**ITH THE ADVENT OF PENICILLIN it appeared that a magic spell had been introduced that would envelop most pathogenic micro-organisms. It is true that the achievements of antibiotics have been tremendous, that a new era in medical treatment has arrived, but search still continues for agents that will yield maximum results with the least harm to the patient. We now know that<sup>1</sup> most of the viral infections, many

fungus diseases, and some bacterial infections, are not benefited by antibiotic therapy. A case is reported<sup>2</sup> of a patient with a staphylococcal endocarditis in which the organism was resistant to penicillin, streptomycin, chlortetracycline, chloramphenicol, bacitracin and oxytetracycline, and not only was it resistant, but its growth was stimulated by these antibiotics. The sulfonamides were incapable of inhibiting growth. Tests by tube dilution technique with penicillin disclosed maximum growth at concentrations of 50 units per milliliter of solution. There was no synergism between penicillin and streptomycin. Polymyxin was ineffective. Only Neomycin sulfate demonstrated an inhibitory effect at a concentration of 0.1 to 0.2 mcg. per ml.

This problem of bacterial resistance has paralleled the increase in the number and use of anti-

S. WILLIAM BECKER, JR., Senior Assistant Surgeon (R), is Dermatologist at the Public Health Service Outpatient Clinic, Washington, D. C.

HENRY W. BEARD, Pharmacist, is Chief of the Pharmacy Service, Public Health Service Outpatient Clinic, Washington, D. C.

Presented at the Annual Meeting of the AMERICAN SOCIETY OF HOSPITAL PHARMACISTS, Salt Lake City, Utah, August 17 and 18, 1953.

TABLE I. RESISTANCE OF ORGANISMS TO PENICILLIN AND STREPTOMYCIN

ORGANISM	PENICILLIN		STREPTOMYCIN	
	RESISTANT	DIRECTION	RESISTANT	DIRECTION
Staphylococci	60%	Increasing	25%	Constant
Alpha-streptococci	30%	Increasing	—	—
Enterococci	100%	Constant	77%	Decreasing
Non-Hemolytic Streptococci	60%	Increasing	—	—
E. Coli	—	—	25%	Decreasing
Proteus	—	—	60%	Decreasing
Pseudomonas	—	—	60%	Decreasing

biotics. Articles on antibiotics emphasize the sensitivity of bacteria to these agents; it is equally interesting to inquire about the bacteria which are resistant to or have developed resistance to these agents.

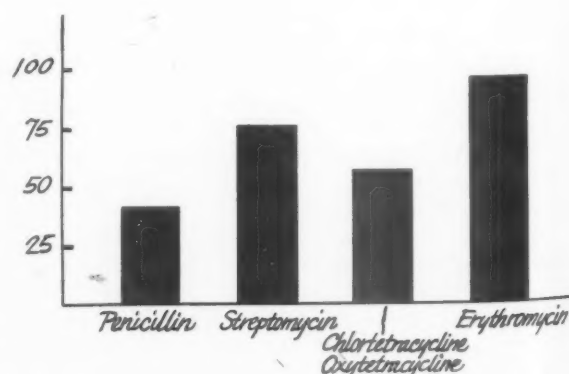
A variety of experiments<sup>3</sup> show that antibiotic resistant strains of staphylococci arise without exposure to antibiotics. There is evidence to indicate, for instance, that eight percent of the staphylococci in nature are resistant to penicillin. With the resistant organisms present and the continual mutations reproducing resistant organisms, the sensitive organisms are killed by the antibiotic upon treatment, leaving as survivors the organisms\* which will theoretically become 100 percent of the flora and be 100 percent resistant to antibiotic treatment. While many bacteria may be made resistant to antibiotics by careful laboratory sub-culture techniques, the resistance of medical significance is that which persists and increases in the general bacterial population. Widespread use of an antibiotic (and misuse by underdosage or undertreatment) gives the resistant strains of bacteria an advantage and leads to their increase in numbers. The more or less free living (facultative pathogenic) organisms appear to produce a greater number of persisting resistant mutations and develop resistant strains when exposed to antibiotics, else they could not have survived. For while antibiotics as such have been only recently put to work by man, they have

been present in nature for millenia and these facultative pathogens have already developed a means of guaranteeing their continued existence.

The table above<sup>4</sup> illustrates the findings of a recent survey on the resistance of various organisms to penicillin and streptomycin. Hemolytic streptococci, pneumococci and gonococci have not developed resistant strains.

Table I indicates that facultative pathogens show the most resistance. The resistance to the most widely used antibiotic, penicillin, is increasing while the resistance to streptomycin, now used mostly for tuberculosis and a few other diseases, is decreasing. It is too early to state whether or not the sensitivity to streptomycin will ever return to the pre-antibiotic level. Resistance<sup>1</sup> to chlortetracycline and oxytetracycline is now such a common phenomenon that approximately 40 percent of the strains of staphylococci isolated are

CHART I. PERCENT OF STAPHYLOCOCCI SENSITIVE TO VARIOUS ANTIBIOTICS



\*While the experiments were made on staphylococci, it is logical to believe that other organisms may follow a similar pattern.

resistant to these agents. Since the introduction of erythromycin, resistant strains of staphylococci have appeared. The suggestion has been made that combining antibiotics will slow the development<sup>3</sup> of resistant strains. The literature is not conclusive but experimental research<sup>5</sup> would support the division of antibiotics into two general groups as follows:

TABLE II. GROUPS OF ANTIBIOTICS WHICH SLOW DEVELOPMENT OF RESISTANCE

GROUP I	GROUP II
Bacitracin .....	Neomycin
Penicillin .....	Streptomycin
(Chlortetracycline)	
(Chloramphenicol) -----	
(Oxytetracycline)	

A bacterium resistant to any member of Group I will tend to be resistant to the whole group; this cross resistance occurs more constantly among the last three in this group than among the others. There is a high percentage of cross resistance in Group II. There is some evidence that the three combinations indicated by connecting lines may decrease the emergence of resistant strains. Antibiotics are also combined for additive or possibly synergistic action, here again there appears to be a division into two groups.

TABLE III. COMBINATIONS OF DRUGS BELONGING TO THE SAME GROUP

GROUP I	GROUP II
Penicillin	Chlortetracycline
Streptomycin	Chloramphenicol
Bacitracin	Oxytetracycline
Neomycin	(?Sulfonamides?)

Combinations of drugs belonging to the same group will at least be additive and may be synergistic; combinations of drugs from both groups will at best be additive and may be antagonistic. Antagonism between antibiotics does not indicate actual neutralization or combination. One of the drugs may so effect the bacterium that it is resistant to the other drugs.\*

\*As the results of these data are from pure cultures, complications may arise in the interpretation as most infections are mixed and may not conform; however, each infection has as a rule one preponderant invader and this is the one generally considered in treatment.

If the correct time schedules are developed and used, the problem of antagonism may disappear; for example:

Penicillin is relatively inactive when given with or shortly after the administration of chloramphenicol. There is no decrease in antibacterial effect if penicillin is given before the chloramphenicol. In this instance chloramphenicol makes the organisms temporarily resistant to penicillin.

Micro-organisms may be divided into three groups in relation to their sensitivity to antibiotics.

1. *Proteus vulgaris* and *Brucella* and some others are for the most part resistant to the current antibiotic spectra (penicillin, streptomycin, chlortetracycline, oxytetracycline, chloramphenicol).

2. Gonococci, *Treponema*, Pneumococci, *beta*-hemolytic streptococci appear to be constantly sensitive to the current antibiotic spectra.

3. The facultative pathogens, such as the staphylococci non-hemolytic streptococci, enterococci and so on, which by their adaptability, due to mutation, have met the challenge of any and all antibiotics so far presented. Therefore the possibility must be considered, at least at this time, that no natural antibiotic will ever completely conquer this adaptable group of organisms and that the therapeutic agents will keep changing.

At present the newest antibiotic gives the best results, yet the time may come when the organisms will lose their resistance by mutation and reversion so that a long unused antibiotic and one of the older therapeutic agents will again be the antibiotic of choice.

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# ROUTES OF ADMINISTRATION

## method of administration

NAME	subcutaneously	intramuscularly	intravenously	special	NAME	subcutaneously	intramuscularly	intravenously	special
ACTH		x	x		Koagamin		x	x	
Adrenalin	x	x	x		Liver Extract		x		
Aminophylline		x	x		Mercurhydrin	x	x	x	
Amytal Sodium		x	x		Methedrine	x	x	x	
Ascorbic Acid	x	x	x		Nalline HCl	x	x	x	
Aureomycin			x		Nembutal Sodium			x	
B Complex		x	x		Neptal		x	x	
Caffeine Sodium Benzoate		x	x		Oestrogenic Hormone		x		
Calcium Gluconate		x	x		Penicillin Crystalline		x	x	
Carbachol	x	x			Penicillin Procaine		x		
Coramine	x	x	x		Pentothal Sodium			x	
Cortisone		x			Phenobarbital Sodium	x	x	x	
Demerol		x			Picrotoxin			x	
Depropanex		x			Piromen	x		x	
Digifoline		x	x		Pitocin	x	x	x	
Digitoxin		x	x		Pitressin	x	x		
Digoxin			x		Polymyxin B		x		*3
Dihydrostreptomycin		x			Procaine		x	x	
Dramamine		x	x		Progesterone		x		
Dromoran HBr, Levo	x				Prostigmin	x	x		
Ephedrine		x	x		Protamide		x		
Epinephrine	x	x	x		Salyrgan		x	x	
Ergometrine		x	x		Streptomycin		x		
Gantrisin		x	x		Terramycin			x	
Gravol		x	x		Testosterone		x		
Heparin		x	x		Thiomerin Sodium	x	x	x	
Hyaluronidase	x			*1	Urecholine	x			
Hydrocortone				*2	Vitamin B Complex		x	x	
Insulin Regular	x		x		Vitamin B 12	x	x	x	
Insulin NPH	x				Vitamin C	x	x	x	
Insulin Protamine Zinc	x				Vitamin E		x		
Iron Oxide Saccharated			x		Vitamin K	x	x	x	

Special Methods: \*1—interstitial \*2—intraarticular \*3—intrathecal



**W**ITH the widespread use of parenteral therapy during the past two decades and the continual appearance of new drugs, the hospital pharmacist must give special attention to the routes of administration of the various preparations available. He must familiarize himself with the relative advantages and inherent limitations in the choice of one of the four routes available for the parenteral administration of fluids—intravenous, intramuscular, subcutaneous and intramedullary.

The hospital pharmacist may often be consulted by physicians and nurses concerning the administration of drugs and in determining the route of choice, he must apply basic knowledge as well as knowing sources of reference material. Because of the importance of having this information readily available, lists have been compiled for use on the nursing units and sometimes published in the hospital's Procedural Manual or in the Formulary. Medical interns and nurses find such a list particularly helpful and refer to it often, thus eliminating the necessity of making a call to the Pharmacy Department.

The accompanying list was compiled by Sister M. Gerald, Chief Pharmacist at St. Joseph's Hospital, Guelph, Ontario, Canada and has served a worthwhile purpose in this institution.

## Intravenous

The intravenous route of administration is used when rapid systemic action is desired. Assuming that the subcutaneous, intramedullary and intravenous routes are equally available and equally acceptable from the technical and therapeutic standpoint, the intravenous route is to be preferred. The rate of absorption by this method can be controlled with greater precision, greater flexibility is possible with respect to the character of material infused, and there is less discomfort associated with this procedure than with any other method of parenteral administration.

## Intramuscular

The intramuscular route is utilized when slow sustained absorption is desirable. The route is suitable for the administration of solutions which are too irritating for subcutaneous injection and of highly insoluble substances such as cortisone and procaine penicillin. The dosage is usually one-half that of the same intravenous medication.

## Subcutaneous

The subcutaneous route is suitable for the administration of solutions which are isotonic, or very nearly so, and the acidity of which is of the same order as that of the body fluids. Solutions which are markedly hypertonic or hypotonic and those which are either acid (with a pH

less than 5 or 6) or alkaline (with a pH greater than 8) exert an irritant effect on exposed tissues and are therefore contraindicated for subcutaneous injection.

The subcutaneous method is preferred in patients whose peripheral veins are deficient, inaccessible, or obliterated by thromboses; in infants and young children; and in situations which prevent sufficient mobilization of the recipient.

## Intramedullary

The bone marrow cavity, particularly that of the sternum, offers ready access to the circulating blood and is one injection site that is almost always available. The bone marrow communicates directly with the venous circulation, and injected materials therefore arrive in the blood stream as rapidly as they enter the body. The majority of crystalloid solutions, as well as those containing protein, such as plasma, and even whole blood, can be administered quite successfully by this route. The chief limitation of this method is the fact that rapid rates of flow are difficult or impossible to attain by the intramedullary technic.

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by THOMAS F. BARRETT

# a physician

## VIEWS THE PHARMACY AND

## THERAPEUTICS

### *The Pharmacy and Therapeutics Committee:*

Chief of Professional Services

Chief of Medical Service

Chief of Surgical Service

Chief of Dental Service

Chief of Pharmacy Service

(also serves as coordinator and secretary of  
Committee)

### *Visiting Members*

Consultant in Pharmacology or Pharmacy

Consultant actively engaged in practice out-  
side of hospital

Junior members selected from the Medical  
and Surgical Service

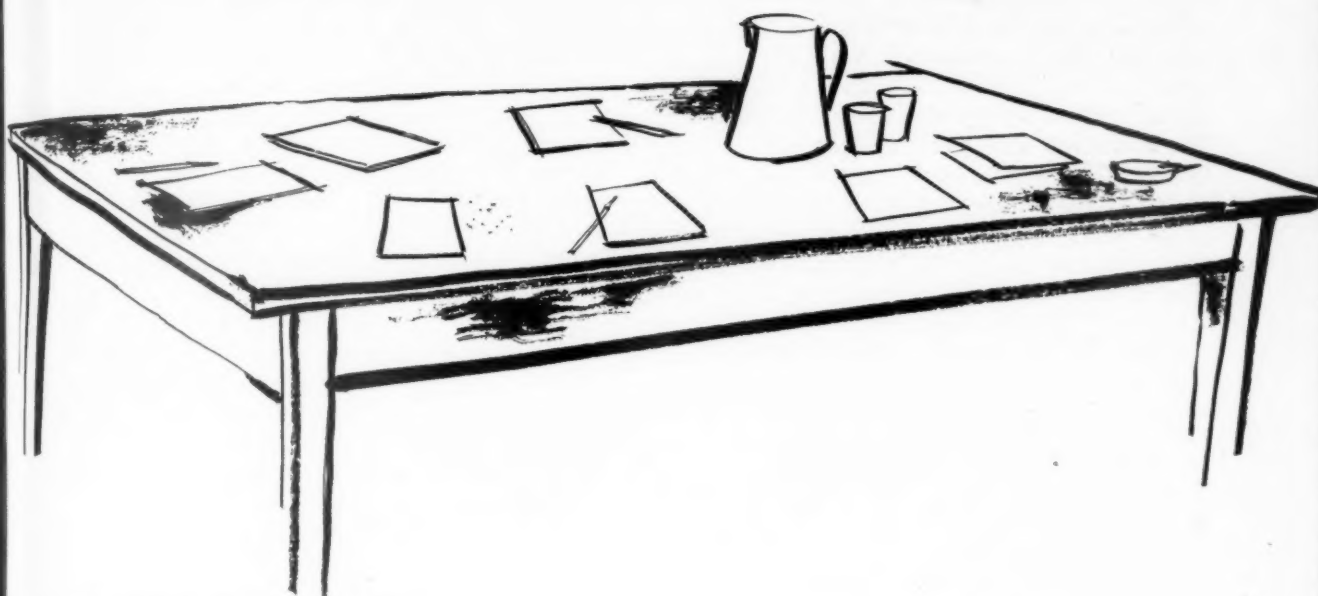
Guest (Intern or Resident in Pharmacy)

**T**HE ADMINISTRATION AND OPERATIONS of a hospital are complicated and confusing if basic reasons for establishing a hospital are not clearly understood by its staff. By definition, a hospital is established for the treatment of the sick. It must be suitably located and constructed to serve and house them, along with being properly staffed, organized and managed to support and apply all or any part of the recognized procedures necessary for satisfying the complex requirements of good medical care in the prevention, diagnosis and treatment of the medically, physically or mentally ill patient; and including the medical aspects of the social ills affecting its patients. It must furnish these services to its patients scientifically, economically, efficiently and unhindered. At the same time it must serve as a functioning facility for the training of its staff and new workers in the many special professional, technical and economic fields essential to the discharge of its proper function.

### **Purpose of the Hospital**

The basic reasons for establishing a hospital are to treat the sick and to train its staff pro-

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## CS COMMITTEE

professionally, technically and economically so that they will know how to render that service under the prescribed conditions of the definition.

The purpose for which the hospital is established is not difficult to understand. The method of rendering that service can become complicated and difficult if the persons responsible fail to realize that the only reason for their being in the hospital is to serve its patients and satisfy their needs.

It is also apparent from this definition that the operation of a hospital is too complex for any one person, or group of persons, to handle alone. To serve the needs of its patients and satisfy the requirements of good medical care, the help and cooperation of many persons working together and supporting each other are essential. Also, they must realize that they alone, as an individual or a group, cannot accomplish their objectives without supporting each other. Therefore, all operations within the hospital, or plans directing or implementing new programs, must emanate from or for the patients so as to improve their medical care. The objective of a hospital is patient care, and requires all persons working within the hospital to support and cooperate with each other to fulfill their responsibility to the patient. This requires that all physicians, nurses, pharmacists, laboratory technicians and other professional per-

sonnel work together as a team supporting and assisting each other to accomplish the purpose for which the hospital was established. The personnel must therefore realize that the importance of their work is dependent upon the support and cooperation of their fellow specialists within the hospital.

### **Coordination of Responsibilities**

If the purpose for organizing and operating a hospital is to take care of sick patients, then all the decisions, planning and operational activities taking place within that hospital should be guided by the requirements of the patient and all persons, regardless of their position or training, should coordinate and direct their activities and special skills to take care of those needs. As the practice of medicine improves, the problem involved in caring for the patient becomes more complex. It requires the help and assistance of many well trained persons, working alone or in groups to satisfy those needs. It also becomes necessary to establish certain basic committees to guide and establish the various functional and operational policies necessary to guide and assist the staff in caring for the patient.

One of the fundamental requirements of good hospital care is the organization and operation of hospital committees to help the administrator and medical director in coordinating and guiding the

many activities necessary for the smooth operations of a hospital. Furthermore, one of the fundamental requirements of a good hospital committee is to see that it brings together those people who are vitally concerned with the problems presented to its committee and that their decisions are in keeping with the purpose for which the institution was established as well as maintaining the philosophy of supporting the staff members responsible for rendering that service.

Inasmuch as the use of drugs and various therapeutic agents are indispensable to the operation of a hospital and necessary for the care of patients, it becomes apparent and necessary that the hospital pharmacists, physicians and nurses must coordinate their activities very closely. Responsibilities must be clearly defined—

The *Pharmacist* is responsible for obtaining, storing, manufacturing and supplying all the necessary medications needed by the physician in caring for his patients.

The *Physician* is responsible for the diagnosis and treatment, as well as the therapeutic agents and procedures necessary to cure or relieve his patients.

The *Nurse* is responsible for administering the therapeutic agents prescribed by the physician in charge in accordance with his orders.

The relationship between the prescribing physician and the pharmacist should not be overlooked, or treated lightly, because they together compose one of the most important committees necessary for the operation of a good hospital program. Both the pharmacist and the physician are well trained in their respective specialties, but the objectives of their training differ. The physician is trained to prescribe the drugs necessary to alleviate his patients' ills, and cure his patients if possible; whereas, the pharmacist is trained to compound, manufacture and supply the physician with the necessary therapeutic agents to fulfill his needs and those of his patients. It is therefore necessary to bring the pharmacist and physician together so that they can learn, from each other, the problems confronting them, and coordinate their activities in a way so as to support each other without interferences.

#### **Role of Pharmacy and Therapeutics Committee**

Therapeutic agents in a hospital are distributed by the pharmacist through the Pharmacy Department. Requests for therapeutic agents from the physician are based on his knowledge of their pharmacological action and therapeutic effects resulting from the combination needed to treat his patients.

The purpose and function of a Therapeutic Committee also referred to as the "Pharmacy and Therapeutics Committee," is to insure the responsible physician that he has complete professional freedom in his choice of therapeutic agents for treating his patients. Because the hospital exists to treat patients, it is apparent that the Therapeutic Committee is obligated to support the physician by furnishing him with the drugs of his choice. Because of the complex indications for the use of various drugs it is impossible to establish a set of fixed rules regulating the types, or kind of drugs which should or should not be used by the physicians throughout the hospital. Sensitivity, resistance and various other idiosyncrasies on the part of the patient, together with the physician's knowledge of the pharmacological action of certain drugs, or combinations, govern his decisions regarding the type and amount of specific drugs requested.

The Therapeutic Committee can accomplish this purpose and, at the same time, control the abuse and misuse of various pharmacological agents within the hospital. It can educate its staff through issuance of regular bulletins giving information regarding the addition or deletion of certain drugs and pharmacological preparations to or from the Hospital Formulary. Also, instructions can be issued to the staff twice yearly on how to request and obtain special drugs not stocked or listed in the Formulary as acceptable for use in the hospital by the ward physician.

#### **Makeup of the Committee**

The Therapeutic Committee itself is composed of a responsible representative from the major services operating within the hospital and should be selected from those who are actively participating in the care of patients. In most hospitals, the Chief of the Pharmacy Service acts as the coordinator and secretary of this Committee, and its members are supported by two visiting consultant members, one in pharmacy or pharmacology, and the other an internist actively engaged in private practice. In addition to the above members, three junior members of the staff are assigned to the Committee as voting members for a four month period. These junior members should be selected from the areas where most of the unusual requests arise or emanate, and through their relationship with the older and more experienced members as well as the fact that they themselves become a part of the Committee, they soon learn how the Committee functions in trying to meet the needs of the patients. Also, they form a good teaching nucleus for the rest of the staff.



## Scope of Committee Activity

As members of the Therapeutic Committee, we realize that we are not a prescribing unit and therefore are not directly responsible for care of the patient. We also are aware of the fact that, as a Committee, we are responsible for the policies which govern the acquisition, storage, distribution and utilization of the various therapeutic agents requested by the physician. As a Committee, we do not try to establish rigid rules or regulations regarding the use of the various therapeutic agents by the physicians in the hospital. We endeavor to support the physician and insure his prerogative to select and use the drugs of his choice and, at the same time, keep him informed through the Hospital Formulary as to which drugs are recommended for use in the hospital. The Chief of the Pharmacy Service is responsible for the development, coordination, organization and dissemination of the materials and content of the hospital Formulary.

The basic scope of this Committee is to assist the prescribing physician in obtaining the drugs of his choice and keeping him informed through the Pharmacy Service regarding the status of the drug he is requesting. The physician desiring the use of various drugs or proprietary preparations not stocked or listed in the Formulary is required to submit his request to the Chief of the Pharmacy, with a short but pertinent explanatory note giving his reasons for desiring to use the particular preparation and the amount needed along with the initials or signature of his section chief. The prescription is now approved by the Service Chief and the Chief of the Pharmacy purchases a small quantity of the drug, submitting the physician's request to the members of the Therapeutic Committee at their next regular meeting for final action. The future recommendation regarding the stocking of the item requested will be decided at that time. If there are any doubts by the Committee regarding the validity or justification of the request, the prescribing physician can, if he so desires, present his reasons personally to the Committee. (This latter step is rarely required.)

The purchase and use of such special therapeutic agents such as ACTH, Cortisone, various antibiotics, etc. are handled on a consultation basis. The Therapeutic Committee designates a responsible individual who is well versed in the field of endocrinology, antibiotics, etc. as a consultant to the Chief of Pharmacy Service for the particular drugs requested in his field, and in this way the Chief of the Pharmacy Service and the Therapeutic Committee can maintain certain controls regarding the use and stocking of expensive medications without infringement upon

the prescribing physician's prerogative to use the drug, or drugs of his choice. It also serves as a means of educating the staff members regarding the uses of these various drugs.

## Drugs for Investigational Use

Drugs requested for investigational use are not approved by the Therapeutic Committee until the project and use of the drug have been cleared by the Research Committee. The Therapeutic Committee, through the Chief of the Pharmacy Service, requires all physicians who use investigational drugs to furnish the Committee with a progress report regarding the clinical efficacy of the drug, or drugs, he is using. Otherwise, request to re-order or stock the drug will not be approved by the Committee.

## Success of Committee Activity

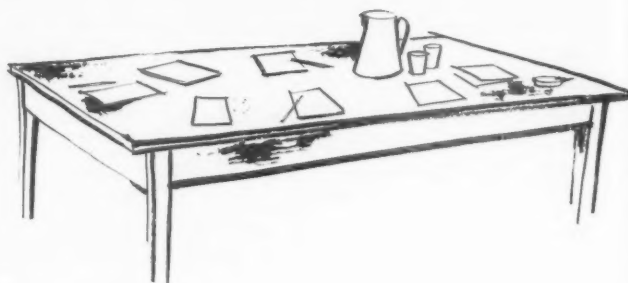
This system for the operation of the Therapeutic Committee has been successful in the Veterans Administration Hospitals. Of great importance is the fact that all major services involved in the handling of drugs are represented as members of the Committee and the Committee as a whole works as a team on which the pharmacist is an important member. Decisions are made on all requests on the basis of the individual merits and justifications of the requesting physician and the realization of all its members to the fact that we as individuals do not know all the reasons why the various medications are requested by the physician. We do realize that collectively we can learn about the problems involved and work out ways and means to correct many of the difficulties regarding the abuses concerned with the rational use of drugs within the hospital through good consultation and a well planned educational program for the staff.

## Summary

We have defined the reasons for a hospital's existence and the reason for our position in it. Without dwelling too long upon a description to illustrate how important the services within the hospital are to each other, we have pointed out the importance for members of the medical care team to work together to fulfill their responsibilities. The purpose and importance of a Therapeutic Committee along with a general description of how it operates professionally is outlined. It is also pointed out that selection of its members should be made upon the basis of their mutual need for the service rendered by the Committee. It is concluded that through education and mutual cooperation, a difficult and complicated problem can be reasonably controlled without issuing or establishing a set of rigid rules requiring constant revision.



by WALTER M. FRAZIER



# a pharmacist

## VIEWS THE PHARMACY AND THERAPEUTICS COMMITTEE

**T**HE EXISTENCE of an active Pharmacy and Therapeutics Committee in a hospital is a significant achievement in the development of good pharmacy service. To the pharmacist it means that:

1. The Administration and the Medical Staff of the hospital are interested in good pharmacy service.
2. The Medical Staff is interested in promoting rational drug therapy.
3. The Pharmacy Department has been officially recognized with professional status in the hospital organization.
4. There is opportunity for the Pharmacy to assist directly in the development of progressive policy and service designed to benefit the patient, the physician, the nurse and the hospital.
5. There is a sound and ethical method of drug standardization.
6. He will be better informed concerning the preferences, opinions, and decisions of the Medical Staff in regard to pharmacy service.
7. His efforts can be devoted to the most important functions of hospital pharmacy service, and the Department may be operated more efficiently and at reduced cost.
8. There is better opportunity for the general

Medical Staff to approve and support pharmacy policy since the decisions are made by a Committee of the Medical Staff.

9. There is a method of excluding drugs not approved for use in the hospital and products of secret formula from the inventory.

10. Products which may be prepared in the Pharmacy Department can be studied and approved by the Committee.

11. He has a direct method of introducing developments in service to the medical staff, and the opportunity to explain his motives and objectives.

12. He can seek the advice and valuable judgment of the Committee on interprofessional problems.

### Developing The Committee

It is essential to adopt principles at the beginning which are approved in writing. Then it is wise to move slowly and not attempt to cover too much at one meeting. One or two decisions actually put into effect by the staff will lead to better interest in subjects at future meetings of the Committee. Brevity, facts, and thorough planning stimulate meetings and insure success of the total program.

Quite often the establishment of a Pharmacy and Therapeutics Committee is not an easy task. The administration or the medical staff may not favor the idea. Or, if a Committee is appointed which does not have the proper enthusiasm for

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the work, there may be a great difference between the objectives and the actual accomplishments. It has been noted that if the program is to be a success the pharmacist himself must be thoroughly convinced of the value and opportunities of the Committee and be familiar with the principles necessary to organize and develop a fundamental program for progressive action. As secretary of the committee, the pharmacist must be prepared to offer suggestions and discuss with the chairman, subjects suitable for the agenda of each meeting. The pharmacist must be willing to devote the time required to investigate problems which can be solved by the Committee and present factual information as the occasion arises. The pharmacist should supply a basic list of drugs for the Committee to study, and do much of the work in the preparation of a Formulary. He can make arrangements for meetings called by the chairman and handle all of the clerical work involved. With ingenuity, he can erase little disturbances and difficulties which can hamper the real effort of the Committee. He should be careful not to obstruct the Committee with petty grievances which annoy daily activity of the Pharmacy Department, but concentrate on the real issues of *policy* and *service*.

The main objection to having a Committee and adopting the principles of the Formulary System seems to be a concern over possible restriction and limitation in the prescribing of drugs. Therefore, it is necessary to clarify this point at the beginning and set up methods to allow changes which are indicated by actual advances in therapeutics and make allowances for special orders for private patients. It is also necessary to make arrangements for special orders approved by the chiefs of staff. Overemphasis of the economic factor is unwise because it leads to disapproval on the grounds that the Committee's purpose is primarily to choose the best drug for the treatment of the patient.

The opportunity to develop an active Pharmacy and Therapeutics Committee program varies greatly with the individual hospital. A program should be more readily accomplished in a teaching hospital than in an open staff institution. However, the need is just as great in all hospitals. The Pharmacy Department and the administration of an open staff hospital may thoroughly support the idea but not find enough enthusiasm for it from the medical staff. Even after the program has been started, and the Committee meets and develops principles for action, it is sometimes found that no cooperation is realized. Much time and effort has been put into the writing of a formulary but few may pay much attention to it although it has been officially accepted. Undue

specification and lack of adherence mounts to the point where the pharmacist feels he has more trouble than if there was no committee and no formulary. Is the cause lost or what can be done about it? A step backward at this point would be a real mistake. I believe that opposition to the Pharmacy Committee and the Formulary System is seldom fundamental and never hopeless. Probably there are misunderstandings or lack of information about the objectives of the program and methods of action. Possibly a new approach is needed. Invariably there is some member or group of members of the staff who thoroughly agree with the philosophy of the committee who can get the idea across to the general staff. Patience and diplomacy are needed to encourage group decision. In addition, the situation may require a genuine endorsement and clarification of the program by one member of the staff who has sufficient prestige and ability to adequately reintroduce the subject to the general staff. Perhaps the pharmacist can find this man or group and solicit the necessary aid. Administrators and physicians as individuals and as groups, are becoming more aware of the value of pharmacy service in hospitals, and generally recognize that there must be advantages in a plan and program for this service which is approved by the American Medical Association and the American College of Surgeons for evaluation of hospital pharmacy service. Then too, the *Minimum Standard for Pharmacies in Hospitals* which has been approved by the American Pharmaceutical Association, the American Hospital Association, and the Catholic Hospital Association, adds prestige to the pharmacy program. The Point Rating Plan for Hospital Pharmacy Service developed by the Catholic Hospital Association clearly emphasizes the value of the Pharmacy and Therapeutics Committee and the Formulary System.

In order to have a Pharmacy and Therapeutics Committee and adopt the Formulary System in a hospital, the pharmacist must be able to assist in overcoming the obstacles. The project is such a worthy and progressive one that it justifies the effort.

It would be helpful if any pharmacist, physician or administrator who is interested in or actually planning to establish a Committee would refer to the references listed below.

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# *hospital pharmacy at the*

**A**PPROXIMATELY 170 HOSPITAL PHARMACISTS representing 20 countries participated in the 15th General Assembly of the International Pharmaceutical Federation held in Paris in September. The meeting of the Section of Hospital Pharmacists was a history making event since it was at this time that organization of the Section was given approval by the Federation. The hospital pharmacists' group made up one of the largest sections of the Federation and also exhibited high interest and enthusiasm for the activities being carried on.

Dr. Jean Cheymol of Paris, France, along with Dr. Kurt Steiger of Zurich, Switzerland, Mr. Herbert Grainger of London, England and Dr. Don Francke from Ann Arbor, Michigan, had met in Rome at the 1951 General Assembly of the F.I.P. to make plans for formally organizing a Section of Hospital Pharmacists within the Federation. In the interim, the Committee requested the Bureau of the F.I.P. to create an official Sec-

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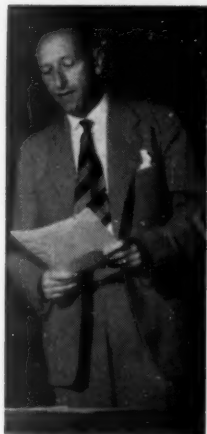
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MR. HERBERT S. GRAINGER  
*Secretary*



DR. KURT STEIGER  
*Vice President*



DR. JEAN CHEYMOL  
*President*

# THE F.I.P. GENERAL ASSEMBLY

tion and to request that the Section be represented on the Council of the Federation, if possible. These requests were finally approved by the General Assembly of the Federation meeting in Paris.

## Officers Elected

Dr. Jean Cheymol who had presided over several of the meetings and had contributed much toward drawing up the Constitution of the Section, was elected first president. Elected vice-president was Dr. Kurt Steiger and the secretary-general is Mr. Herbert Grainger. The vice-president and the secretary are well known to many ASHP members since they participated in the Society's Decennial Meeting in Philadelphia in 1952.

In order that formal plans for a Section could be worked out by the hospital pharmacists, a small Committee consisting of representatives from each participating country met three times during the week. A Proposed Constitution had been drawn up by the Committee for considera-

tion. Representatives from each country were given an opportunity to discuss any unusual problems which might arise in their particular countries. Special consideration was given to membership, national bodies of hospital pharmacists which would be recognized by the Section, and plans for carrying on the work of the Section. Under the Constitution (which appears in full on page 504 of this issue of *THE BULLETIN*) one national organization of hospital pharmacists in each country may be an ordinary member of the Section. In cases where there is more than one such body in any given country, it is up to them to agree upon the organization which should be recognized. These national organizations will have the right to appoint one voting representative to the Council of the Section. An additional representative may also attend Council meetings.

Individual members of each national organization are eligible for associate membership in the Section of Hospital Pharmacists of the F.I.P.

### ASHP Delegates

Hospital pharmacists from the United States attending the Federation meetings were active in the deliberations and participated in the Section of Hospital Pharmacists. In spite of language difficulties which sometimes prevailed, there was opportunity to exchange thoughts and establish a liaison with hospital pharmacists from countries from all parts of the world. Members of the American delegation were especially grateful to Mr. Herbert Grainger and Dr. Kurt Steiger for their efforts in providing English translations of the discussion.

Official representatives of the AMERICAN SOCIETY OF HOSPITAL PHARMACISTS to the Committee on Organization of the Section of Hospital Pharmacists were Secretary Gloria Niemeyer and Past-President W. Arthur Purdum. Dr. Don Francke also served along with the Organizing Committee in drawing up the Constitution for the Section.

One of the matters on which the American Delegation expressed itself was the problem of pharmacists in small institutions and the fact that the Section should not limit membership only to those pharmacists practicing in institutions of a particular size.

### Papers Presented

Summaries of approximately twenty papers were presented before the General Sessions of the hospital pharmacists with simultaneous translation into several languages. In order that hospital pharmacists from the United States will have a general idea of the interests of hospital pharmacists from other countries, abstracts of the papers presented to the Section of Hospital Pharmacists are printed here.

**A Point-Rating Plan for the Evaluation of Hospital Pharmacy Service** by M. R. Kneifl, Executive Secretary of The Catholic Hospital Association of the United States and Canada, St. Louis, Mo., U.S.A.

A presentation is made of a method for the evaluation of hospital pharmacy service. This point-rating plan is based upon the American Society of Hospital Pharmacists *Minimum Standard for Pharmacies in Hospitals*. The objective is to develop a better understanding and observance of the *Minimum Standard* and to furnish a practical method for evaluation of pharmacy service in hospitals.

The criteria and elements of the Point-Rating Plan are discussed. The criteria which is elaborated upon are as follows: 1. Objective of the Pharmacy Department; 2. Organization; 3. Committees; 4. Policies and Regulations; 5. Staff; 6. Facilities; 7. Professional Service; 8. Administration; 9. Educational Activity; 10. Library; and 11. Research.

The procedure and other considerations for making and scoring the report are discussed. The advantages of self-evaluation are emphasized.

**The Development of Cotton Wool as a Wound Dressing** by J. R. Elliott, Saint Bartholomew's Hospital, London E. C., 1, England.

Before the beginning of the nineteenth century cotton was not used by surgeons to any great extent, because wounds dressed with it so often became heavily infected.

Cotton which had been washed and carded was introduced into orthodox surgical practice in England in 1828 for direct application to burns and scalds. By removing natural grease from the fibres, absorbent cotton wool was produced, and this was later often medicated with antiseptics before use as a wound dressing.

Aseptic cotton wool, prepared by autoclaving was developed in the early years of the present century, and has completely replaced the medicated cotton wools of the Listerian era.

Modern cotton wool is able to absorb and retain greater volumes of fluid than the woven surgical dressings. Rayon wool does not yet appear to be a serious rival to cotton wool.

**The Sterilization of Surgical Dressings** by S. J. Hopkins, Addensbrooke's Hospital, Cambridge, England.

The importance of sterilized dressings in modern aseptic surgery is well known but there is need for a more strict control of the sterilization process by a responsible officer. The principles of the process are simple, but often difficult to apply in practice owing to the poor design of drums and sterilizers.

The almost universal reliance placed on pressure gauges as thermometric indicators is regrettable, and potentially dangerous, as such gauges are not designed for this work. Visual indicators, such as those based on the hydrolysis of ethylene chlorhydrin or the melting of benzoic acid, react to dry as well as moist heat, and although chromium sesquichloride is free from this disadvantage, the color change is not sharp enough to be reliable.

A new type of drum is suggested, and it is hoped that the hospital pharmacist will take a greater interest in the future in this rather neglected field of hospital sterilization.

**The Sterilization of Congo Red Injections** by T. D. Whittet and G. F. Somers, University College Hospital, London W. C. 1, England

The stability of Congo red solution towards sterilization and storage has been investigated.

Neither autoclaving at 10 lbs. for 30 minutes nor steaming at 98 to 100° C. for 30 minutes causes an increase in toxicity.

Filtration does not cause an increase in toxicity unless the solution is in contact with air for a prolonged period.

No increase in toxicity occurs on storing sealed ampuls of Congo red injection at room temperature or in a refrigerator over a period of three months.

**A Tampon For Anal Use** by P. Kramer, Lausanne, Av. des Belles Roches, 5, Switzerland.

The purpose of the described tampon is the treatment of anal diseases, such as hemorrhoids,

pruritus ani and similar conditions. It consists of a little rod made of flexible polyethylene; at one end of it is attached a head which looks like a flattened sphere, destined not to allow the introduction of the whole tampon into the rectum. The rod is surrounded with surgical cotton wool, the diameter of which enlarges from the base of the head up to the other end of the rod. This cotton wool may be dipped, at the moment of use, into a medical solution. If the tampon, when sold, is already provided with adequate medicines, it must have been dried after dipping. In this case, a layer of alginate is put on the tampon and equally dried. Before using it, the tampon must be dipped momentarily into water. The layer may also contain a local anesthetic, which will act *before* the medicine contained in the cotton wool. The shape of the tampon is made according to the anatomic disposition of the anus. The patient may leave it in place for one or two hours without inconvenience, and without interruption of his normal occupations. This new medical device allows an intense local activity, far more effective than that of pessaries, compresses or ointments.

### Sterilization By High-Frequency Heating by R. Meyer, F. Hippenmeyer and K. Steiger, Kantonsapotheke, Zurich, Switzerland.

After a brief outline of the well known difficulties of sterilization by dry heat, the advantages of dielectric high frequency heating for the uniform and quick heating of material to be sterilized are reported.

Heat is produced within the material to be sterilized and depends for a given instrument on its loss angle.

For the sterilization experiments which were conducted in the Canton-Pharmacy, Zurich, with capacitive high frequency heating, a Philips high frequency generator of 15 mega Hertzian wave length (a low frequency wave) was used, which yields approximately two cwt. of high frequency load. The distance between the electrodes was 30 mm. The experimental material consisted of one Kg. paper bags of talcum powder and the test organisms consisted of earth spores of a resistance to steam of several hours. The temperature was determined at the center and at two peripheral measuring points of the talcum bag, by use of three thermoelements.

The temperature rose very rapidly—180° were reached in seven minutes, 250° within thirty to thirty-five minutes. It took only from thirty to thirty-five minutes for the sterilization of these heavily contaminated talcum bags, in spite of the unfavorable frequency of the high frequency generator, compared with a time of three to four hours in a drying oven.

Once the method is technically perfected and the wave lengths are more favorable, that is, of considerably higher frequency, it can be expected that the time of sterilization will be much shorter.

### Effect of Electromagnetic Waves on Denaturation of Bacterial Proteins by F. Hippenmeyer, R. Meyer and K. Steiger, Kantonsapotheke, Zurich, Switzerland.

Since the protoplasm of bacteria consists mainly of proteins, besides water, we believe that a

specific damaging effect of high frequency electromagnetic radiation on bacteria, can be attributed to an effect of radiation which denatures selectively the protein of the bacteria.

Proteins, like water molecules, are permanently dipolar. The times of relaxation (abatement of intensity) and the critical frequencies of the very large protein molecules are a great distance in the high frequency spectrum from those of water molecules and amino acids. The molecular specific nonresonance absorptions of energy for proteins in a high frequency field are therefore in the range of macrowave length. This is in contrast with the water molecules which have their maximum absorption in the range of microwaves.

It is possible, therefore, to radiate energy in a selective way from a high frequency field into the proteins of bacteria by the proper choice of frequency. Because of the use of their absorption-frequency the proteins are simultaneously strongly oriented in a plane of polarization. This accomplishes a rapidly changing periodic distortion of the plasma structure of the bacteria, which in itself might denature them, as the protein may become denatured through a detachment of cohesion-bonds. We found on the basis of loss measurements in the range 0.08-10 MHZ (mega Hertzian wave length) that living micro-organisms in aqueous suspension show absorption maxima between 0.1-0.3 MHZ. The absorption maxima of spores denatured by autoclaving are definitely shifted to higher frequencies. The absorption maxima of the bacterial filtrate of living *coli* bacilli is clearly more to the right of the spectrum, that is, in shorter wave lengths, than that of the living bacteria. As the frequencies in which these absorptions occur are the same in which higher molecular proteins are absorbed, we believe that the absorptions we found could be related to those of proteins of bacteria.

It has so far been impossible to make practical denaturation experiments with these absorption frequencies.

### Adrenochrome as a Plasma Substitute by P. Sorgdrager, Stads en Academisch Ziekenhuis, Utrecht, Holland.

There is a great number of anti-shock drugs. They can be divided into two groups.—one containing solutions of big molecules (acacia, gelatin, pectin, Dextran, PVP, Aminosol) and the other containing a vasoconstrictive agent.

If the shock condition is due to a higher permeability of the capillary vessels, it will be most probable that a substance, that can diminish this permeability, will have a chance of success as an anti-shock medicament.

This idea has led to the use of adrenochrome as such, in a concentration of 100 mg. per liter of Ringers Solution (Adrenoxyl-Ringers). The

## Proposed Constitution

### OF THE SECTION OF HOSPITAL PHARMACISTS INTERNATIONAL PHARMACEUTICAL FEDERATION

#### I. MEMBERSHIP

**Article 1.** The Section shall consist of:

A. **Ordinary Members** which are the national organizations of hospital pharmacists which have put their Constitution before the Council of the Section. Not more than one organization for each country may be admitted.

B. **Associate Members** who are pharmacists of hospitals, whether public or private, who are members of their national organization. Such associate members may be admitted only after their application has been approved by their national association and by the Council of the Section.

#### II. THE COUNCIL

**Article 2.** There shall be a Council consisting of the representatives of each national association recognized by the Section. Each association shall have one representative with the right to vote. Each representative may be accompanied by another member of his national association. The latter shall not have the right to vote.

**Article 3.** Voting shall be normally by a show of hand unless a request to the contrary be made by a member of the Council.

**Article 4.** Associate members and members of the Bureau have no right to vote.

**Article 5.** The Council shall nominate the delegates to represent the Section in the General Assembly of the International Pharmaceutical Federation.

**Article 6.** The Council may levy a fee to enable the work of the Secretariat to proceed.

#### III. THE BUREAU

**Article 7.** The Council shall nominate a Bureau consisting of:

- A. A President
- B. A Vice-President
- C. A Secretary-General

**Article 8.** The President and the Vice-President may not be elected on more than two consecutive occasions.

**Article 9.** The Secretary-General may be re-elected without limit to the number of times.

**Article 10.** The members of the Bureau shall be of different nationalities.

**Article 11.** The Bureau shall be elected during the General Assembly of the F.I.P. for the period between two such Assemblies. It shall take office at the end of the General Assembly and continue until the end of the next Assembly.

**Article 12.** The Bureau shall maintain liaison between the governing body of the F.I.P. and the national associations of hospital pharmacists. It shall convene the Council of the Section. Where circumstances prevent the biennial meeting of a General Assembly of the F.I.P., it may convene a special meeting of the Council.

**Article 13.** One of the three members of the Bureau shall represent the Section at the Council of the F.I.P.

**Article 14.** The Bureau shall arrange the program and the work of the meetings of the Section.



preliminary results give hope that a valuable medicament is found in the combat of shock. The effect is still stimulated by the energetic action of the substance, which results in a sensation of well-being, a beginning of diuresis in a few hours and an increased mobility of the patient.

#### Testing the Stabilizing Solution for Blood Preservatives With Respect to Pyrogenic Reaction by F. Linner, St. Johannspital, Salzburg, Austria.

The stabilizing solutions nowadays in use include citric acid as component and are therefore fixed for a pH value of 4.5 up to 6.0

On testing the above solutions for pyrogenic reaction on rabbits, considerable pain occurs. The animals get rather excited which makes the test conditions difficult and may cause increases of temperature.

The above disadvantages have as yet been somewhat neutralized by a dilution of the stabiliz-

ing solution prior to the injection and by a very slow injecting process.

Description of a new test method. Prior to the assay the stabilizing solution will be fixed to a pH value of 7.0 by means of a solution of sodium hydroxide 1/N which is free from pyrogens. The injection of the above solution does not cause any pain to the test animals and can be effected at rather high speed. The animals remain sedate and when pyrogen-free solutions are injected, do not show any temperature increase.

#### The Stability of Aureomycin in Water-Based Ointments by T. Carr, M. K. Pradham and H. S. Grainger, Westminster Hospital, London S. W. 1, England.

Aureomycin hydrochloride is rapidly destroyed in alkaline conditions, but is more stable in neutral or acid conditions.

In all the bases investigated the activity of the antibiotic had fallen to 75 percent within forty days at room temperature.



Base No. 3 gave the maximum stability and the ointment retained 85 percent of its original activity after thirty-one days at room temperature.

Water-based ointments retain their activity slightly longer if stored at refrigerator temperature (3°C.) but the difference is small (about eight days).

Water-based ointments are unsuitable for commercial production on account of their short storage time, but are sufficiently stable for preparation and use in hospital pharmacies.

An expiration date of one month from the time of preparation should be marked on each batch.

**About Some Determinations of Isoniazid by E. Kuhni and H. Grossglauser, Laboratoire federal de la Pharmacopecie, Hermann-Sahli-Strasse 10, Bern, Switzerland.**

The published assays of isoniazid with 0.1 N potassium bromate, 0.05 M potassium iodate, 0.1 N solution of iodine and 0.1 N perchloric acid have been examined.

It has been shown that the determination with 0.1 N potassium bromate, giving results of small accuracy can be replaced by the titration with 0.5 N potassium bromate. The results of the bromometric method are about 0.3 to 1 percent too high as we confirmed by potentiometric titrations.

The published assay with 0.05 M potassium iodate may be improved by raising the concentration of the indicator.

The fact that the results obtained by the iodometric method with 0.1 N solution of iodine are too low was confirmed. Better results may be obtained by the titration with 0.1 N perchloric acid in a non-aqueous medium.

**Electrophoresis on Paper of Blood Proteins in Clinical Biology by C. K. V. Van Dommelen and M. J. Shulte, Gemeente Ziekenhuis, Arnhem, Holland.**

The clinical results of more than 300 electrophoresis on paper of blood proteins are reported.

The method is of diagnostical value in the disease of Kahler and in nephrosis. When the result of an electrophoresis is negative, a myeloma is very improbable.

In most cases it is impossible to make a diagnosis from the electrophoretic diagram; at best, the syndrome can be classified in a certain group.

**A Method of Estimation of Glucose and Lactose in Urine by M. Leclerc and R. Nour Moussavi, Laboratoire de Chimie Biologique, Faculte de Pharmacie, 4, avenue de l'Observatoire, Paris, France.**

A method was established for the quantitative estimation of glucose and lactose jointly present in urine. Glucose is estimated by determining the alcohol produced by fermentation and lactose by the copper method after fermentation.

**A Micromethod for Blood Glucose Determination by M. Uzan and A. Dziri, Laboratoire de Physiologie, Institut des Hautes-Etudes, Tunis, Tunisia.**

In order to undertake routine investigations of even slight variations in blood glucose rate, not only of humans, but of little animals, the Rap-

aport and Eichhorn method was modified, as to permit colorimetric dosage, with reference to numerous additions made to the previous Hagedorn and Jensen technique, by Folin and Malmoss, Fonty, Plumel, etc.

One may work with but a sample of 0.02 cc. of blood. Ferricyanide is reduced by glucose into ferrocyanide, which, by reacting on ferrous sulfate in the solution, is changed into Prussian Blue. This precipitate is maintained in dispersed state by polyvinylpyrrolidone (3.5 percent solution). The color is steady during about one day, and may be estimated with Lagaillarde Photometer (or every other microphotometer).

Testing solutions of glucose are used for comparison (one was 1 percent and the other 2 percent with pH adjusted to 7 (by means of a buffer).

Errors are less than 1.65 p. 100. Time for the whole determination is about 30 minutes.

**The Safety of Prolonged Inhalation of Epinephrine Compounds by H. M. Cobe and J. C. Munch, Department of Bacteriology, School of Pharmacy, Temple University, Philadelphia 30, Pa., U. S. A.**

The question of safety of protracted inhalation of epinephrine compounds used as aerosols has risen because of unfortunate effects reported after continuous injection therapy. In this investigation a large number of animals, chiefly rabbits, received massive quantities of epinephrine aerosols daily over long periods of time. Animals were sacrificed from time to time at various stages of the experiment for gross and histopathological study of tissues. Evidence of injury was evaluated as a result of such therapy.

In addition, clinical observations were made on individuals previously diagnosed as having clinical symptomatology resultant from pathology of the endocrine or respiratory systems. No untoward pathology could be demonstrated as a result of such therapy. Details are outlined and reported.

**Factors in the Selection of Germicides for Hospital Use by Sister Mary John, Mercy Hospital, Toledo, Ohio, U.S.A.**

There are many factors that enter into chemical sterilization. Bacteria grow in culture medium which covers the organisms and prevents adequate contact. Other things, such as grease, finger prints and oil on the skin render the bacteria more or less waterproof. It is a matter of cleanliness, penetration and concentration of a potent germicide which should be exhibited to the organism long enough to produce bactericidal effect. This can only be determined by testing each germicide under actual conditions of use. Germicides found ineffective should be eliminated.

Spores must be destroyed if infection is not to be conveyed from one patient to another when sterilizing such items as non-boilable catheters or instruments that are adversely effected by heat.

Disinfection of the skin for surgery must be done by chemical sterilization at the present

time. Hexachlorophene, Actamer, parachlorometaxylnol, and dichlorometaxylnol are used extensively for this purpose, but differ in action. Alcohol 70 percent by weight is still considered a potent skin antiseptic and iodine 2 percent in water is considered the most potent.

The structural formula gives much information; when the molecular weight increases without screening the important hydroxyl group, the phenol coefficient increases. The hydroxyl ion *per se* is an important germicidal agent.

Accumulating evidence supports the assumption that the more effective germicides are strongly adsorbed on bacteria. They can be made more potent by utilizing colloidal principles to increase adsorption, by forcing the antiseptic more completely on the micro-organisms.

**Administrative Problems of Hospital Pharmacy by J. W. Hadgraft and R. G. Heppell, Royal Free Hospital, Gray's Inn Road, London, W. C. 1, England.**

Since the introduction of the National Health Service in Britain, administrative problems have emerged which have affected hospital pharmacy. In the solution of these problems cooperation between the administrator and hospital pharmacist is necessary.

The administrator is responsible for insuring that the policy of the Board or Committee of Management is carried out but the pharmacist must accept full professional responsibility for the work of his Department.

While from economic considerations, large hospitals may be desirable, other considerations limit their size and consequently the scope of the Pharmaceutical Departments within them. Teaching and research should be important factors determining the pharmaceutical facilities available.

Economic functioning can best be achieved by cooperation between the pharmacist, administrator, and medical and nursing staff and cannot be achieved solely by the application of business costing methods.

The grouping of hospitals in Britain has created conditions for centralized purchase and manufacture but has brought new problems, on the solution of which the future of hospital pharmacy may well depend. There should be close consultation between the chief pharmacists within a hospital group and nothing should be done to undermine the professional position of the pharmacists in the individual hospitals.

With the growing emphasis on preventive medicine, hospital pharmacists in the future are likely to meet new problems and must play a full part in preventive as well as curative medicine.

**Pharmaceutical Teaching and Research in British Hospitals by T. D. Whittet, University College Hospital, Gower Street, London, W. C. 1, England.**

The purpose of this paper is to present a survey of the teaching arrangements and research facilities in the pharmacies of hospitals attached to British universities.

**Medical Students:** The majority of chief pharmacists of teaching hospitals in England and Wales take part in the teaching of pharmacy to

medical students. A few also teach pharmacy to dental and veterinary students.

Most courses consist of from six to twelve lectures with about six practical periods. In most cases the emphasis in the course appears to be teaching such knowledge of pharmacy as will enable the student to prescribe intelligently. No attempt is made to train him to be proficient at dispensing which is the concern of the pharmacist. Most courses include practical work or demonstrations, the main function of which is to illustrate the lectures and enable the student to visualize the preparations he will be prescribing. Most of the teachers have the status of Lecturer in their medical schools but comparatively few have an official status in their university.

**Nurses:** Most teaching hospital pharmacists, and many other chief pharmacists in England and Wales, are lecturers to their respective schools of nursing. In the courses given to nurses pharmacology is taught rather than pharmacy. The action and uses of the main types of drugs in common use are discussed together with forensic pharmacy, weights and measures, pharmaceutical calculations, etc. Practical classes are not usually given but there may be demonstrations.

**Pharmaceutical Students:** In Britain apprenticeship or, as we now prefer to call it, studentship is not required for a University Degree but is essential for admission to the register of pharmacists.

Two types of studentship are recognized:

1. A two year period under articles of pupilage taken either before or after the intermediate examination. There is no set course of training for pregraduate students but the pharmacies in which they are trained must be inspected and approved by the Pharmaceutical Society. The latter has also published a list of rules for the minimum requirements to be taught to such students and notes for the guidance of those supervising the training.

2. Postgraduate students who have obtained their degree in pharmacy or Pharmaceutical Chemist Diploma serve for one year which need not be under articles of pupilage or in an approved pharmacy. The main requirements of these students is practical experience. They should also be encouraged to take an interest in research. Many British hospitals have posts for pharmaceutical students on their establishment.

British hospital pharmacists do not take part in the training of postgraduate students and do not hold appointments in schools of pharmacy.

**Research:** Most of the teaching hospitals in England and Wales and some of the larger non-teaching hospitals have facilities for research in pharmaceutical subjects but many pharmacists state that no special facilities are available and that the limiting factors are time and shortage of staff. The type of research carried out in most hospitals is mainly applied research, especially formulation.

**The Responsibility of the Pharmacist and Especially the Hospital Pharmacist by P. Hublet, N. Lejeune and R. Delrue, Hospital d'Ougree, Belgium.**

As the problem of the responsibility of the pharmacist has been modified during the last half

century, firstly as a result of the industrialization of a section of pharmacy subsequent to advances in therapeutics, and secondly as a result of social progress in solving the problem of the cost of medicaments, it is timely to give some definition, on an international basis, of the responsibility of the pharmacist, and in particular of the hospital pharmacist, for laws governing these branches vary considerably from country to country.

While formerly every medical substance was beyond all question the sole responsibility of the pharmacist, at the present time the meaning of the word "medicament" has itself become a subject of controversy, that is whether or not nitrous monoxide for narcosis, catgut for suture, and sterile dressing, are to be called medicaments, and what must be the pharmacists' responsibility in this field?

Then, when the pharmacist does not own his pharmacy—as for example the hospital pharmacist, dependent either on a public department or a private association—is his responsibility as complete as that of his colleague who owns a pharmacy?

We for our part consider that in both cases the responsibility of the pharmacist must be full and complete. By virtue of these responsibilities the pharmacist should be given the latitudes that are essential if he is to be in a position to perform his duties from the time products are purchased, which in his hands will become medicaments, until they are used by the patient. In other words, running a pharmacy, including the financial side which certain problems implicate, should be the province solely of the qualified pharmacist in charge who, while not neglecting various other aspects should always in the first place do the best as to obtain the maximum purity and efficacy in the medicaments he is called upon to supply.

In the event of his being asked to justify any action, he should be able to do so before his equals, who are alone competent to judge problems as specialized as those met with in pharmacy.

**The American Society of Hospital Pharmacists—Its Role in the Advancement of Hospital Pharmacy in the United States by Gloria Niemeyer, Secretary, American Society of Hospital Pharmacists, 2215 Constitution Ave., N.W., Washington, D. C., U.S.A.**

The role of the American Society of Hospital Pharmacists and the practice of this specialty in the United States are reviewed. Factors contributing to the advancement of hospital pharmacy are outlined. The organizational framework of the ASHP, its relationship with the parent organization, the American Pharmaceutical Association, and the Division of Hospital Pharmacy are discussed. Emphasis is placed on the role of hospital pharmacists in the total medical care program as well as their role in the profession.

Specific activities being developed by the Society are elaborated on with interpretations as to the total effect on hospital pharmacy practice. The future role of pharmacists practicing in this nation's hospitals is presented with projected plans

for organizational activities and individual contributions in the interest of promoting better patient care.

**Minimum Standard for Pharmacies in Hospitals by W. Arthur Purdum, Chief Pharmacist, The Johns Hopkins Hospital, Baltimore, Maryland,**

The origin and purpose of the minimum standards for hospitals and their various departments are discussed with special reference to the Pharmacy Department.

The elements of the present *Minimum Standard for Pharmacies in Hospitals* are presented and elaborated upon. These include standards for departmental 1. Organization; 2. Policies; 3. Personnel; 4. Facilities; 5. Responsibilities; and 6. Pharmacy and Therapeutics Committee.

The importance of the minimum standards to the advancement of pharmaceutical service in hospitals is emphasized. Possible future developments in this field are explored.

**The Growth and Development of the Canadian Society of Hospital Pharmacists by Glen Moir, Canadian Society of Hospital Pharmacists. (Presently a student at University of Michigan, Ann Arbor, Michigan, U.S.A.).**

The role of the Canadian Society of Hospital Pharmacists in the advancement of hospital pharmacy is reviewed. Special emphasis is placed upon the contributions of *The Hospital Pharmacist*, the official journal of the Canadian Society of Hospital Pharmacists, in overcoming the many organizational difficulties caused by the wide geographical separation of Canada's hospital pharmacists. A summary of past achievements, current activities, and future plans is presented.

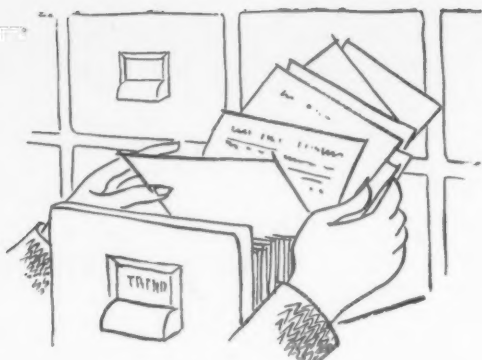
**Hospital Pharmacy in Spain by R. Casamada San Martin, Faculte de Pharmacie, Barcelona, Spain.**

The author gives an account of hospital pharmacy history in Spain which goes back to the 10th century. He sums up the legislation which governed the operation of hospital pharmacy service, of which the first legal provision dates from 1860, the professional status of the pharmacist in civil hospitals having already been established and defined.

He makes a study of the scientific and professional responsibilities of the hospital pharmacists in Spain, examining which are his missions or prerogatives and the place which he occupies among the academic medical personnel of the hospital where he practices.

He gives information on the characteristics of hospital pharmacy service in Spain. After having indicated briefly the character of pharmacy in military hospitals, he ends the study with a brief description of hospital pharmacy in Barcelona (the place where the author practices his profession) and concludes by assigning the practice of hospital pharmacy a place in the framework of Spanish pharmacy and in the greater framework of international pharmacy.





# THERAPEUTIC TRENDS

New trends in medicine and pharmacy include  
**NEW ANTIEMETIC — WARFARIN — ANTIHISTAMINES FOR EDEMA — HORMONE FOR CANCER — PAGITANE HYDROCHLORIDE — ISONIAZID IN PSYCHIATRY — KHELLIN FOR ASTHMA — ACHROMYCIN**

Edited by LEO F. GODLEY

## A New Antiemetic

Compound 2601-A, 10-(*gamma*-dimethylamino-propyl)-2-chlorophenothiazine hydrochloride, a substance found to have antiemetic properties was investigated by Friend and Cummins at Peter Bent Brigham Hospital in Boston. The report of this study appeared in *J. Am. Med. Assoc.* 153:480 (Oct. 3) 1953.

Nausea and vomiting is a symptom complex that is distressing and debilitating; and this drug apparently represents the greatest advance in the management of individuals so affected. Doses of 25 to 50 mg. every three or four hours 3 or 4 times a day as needed to control symptoms were employed. The drug may be administered parenterally (I.M.) or orally.

There were 70 patients in this study who were treated for nausea and vomiting that accompanied a variety of pathological conditions, e.g.: carcinoma, labyrinthitis, uremia, vomiting of pregnancy, drug reactions including the antabuse-alcohol reaction. There have been no important side effects other than mild degrees of dryness of the mouth, sedation, faintness, flushing and palpitation. Blood, urine and EKG investigations revealed no untoward effects in patients being treated with 2601-A.

This compound was originally investigated in France and given the generic designation "chlorpromazine." The material used in this study was furnished by Smith, Kline and French Laboratories who now designate their product as Thorazine.

## Warfarin As An Anticoagulant

Warfarin, 3-(*alpha*-phenyl-beta-acetyethyl)-4-hydroxycoumarin sodium derivative, is a coumarin type compound that exhibits an anticoagulant effect when administered intravenously. This compound is water soluble, can be administered parenterally, produces less tendency to hemorrhage than dicumarol, has essentially no side effects, and hypoprothrombinemia is acquired

more quickly than with dicumarol. It is readily counteracted by menadione and vitamin K<sub>1</sub>.

A report of 100 patients treated with Warfarin (Coumarin Sodium) was published in *Angiology* 4:380 (Aug.) 1953. Another report of 29 cases appeared in *Proc. Staff Meet. Mayo Clin.* 28:489 (Sept. 9) 1953. A dose of one mg./kg. body weight was used and after initial doses, hypoprothrombinemia was maintained with dicumarol.

The material used in these studies was furnished by Endo Products Inc.

## Antihistamines For Edema After Oral Surgery

According to a report in *Dental Digest* 59:314 (July) 1953 Benadryl and Pyribenzamine have been beneficial in the reduction of edema following oral surgery. Postoperative pain was also reduced. Dosage employed was 50 mg. of the antihistaminic 15 minutes before surgery and repeated upon completion of the operation and for three more doses at four-hour intervals.

## Substance "S" In The Treatment Of Cancer

Reichstein's Substance "S", 17 hydroxy-11-desoxy-corticosterone, is closely related to cortisone. This material was used by River *et al* at Cook County Hospital in Chicago in the treatment of 20 patients with inoperable breast cancer. This report appeared in the *Illinois Med. J.* 104:126 (August) 1953.

The hormone, Substance "S", was prepared in a sterile aqueous suspension. Dosage consisted of 25 mg. daily by intramuscular injection during hospitalization and 50 mg. three times a week while at home.

Eight patients died while under treatment. There was no objective improvement in these eight patients but five experienced subjective benefit as demonstrated by increased appetite, a sense of well-being, and decreased need of opiates. Twelve patients were still alive at the end of the study, after they had received Substance "S" over periods ranging from four to nine months. All of



these felt better while therapy was being given and relapsed within a month after cessation of injections. Better appetite, weight gain, improved hopefulness, and pain relief were characteristic improvements. There were no marked rises in hemoglobin. Some sloughing ulcerations improved but none healed. There was no histologic improvement noted.

Of the 12 patients who survived, even though the above improvements were noted, the course of the disease become progressively worse in six; in three the disease was arrested for periods up to five months; and four patients not only showed subjective improvements but objective improvements as well.

A mild rash in one patient which subsided upon cessation of therapy for a week was the only side effect noted. These investigators are of the opinion that the palliative treatment of cancer with Substance "S" should be investigated further.

#### Compound 08958 For Paralysis Agitans

Magee and DeJong reporting in the *J. Am. Med. Assoc.* 153:715 (Oct. 24) 1953 gave an account of their investigation of a new antispasmodic drug, 1-phenyl-1-cyclopentyl-3-piperidino-1-propanol hydrochloride. This compound, designated as number 08958, has an atropine-like action; it is a white crystalline solid and has a bitter taste.

These investigators say that 08958 supplements rather than replaces the already available remedies. It is pointed out that different patients with this malady respond differently to the same remedy and that optimum treatment is attained by individual trials and adjustments.

In this study, 61 patients with paralysis agitans were treated with compound 08958 and gave the following results:

- 46 percent found greater relief than with other remedies.
- 25 percent found no difference in this and other remedies.
- 16 percent found less benefit than with other drugs.
- 13 percent found no benefit or too many side effects.

Dosage varies upward from 2.5 mg. daily depending upon response and tolerance. Side effects were a factor in dosage also. Significant side effects consisted of dizziness, headache, dryness of mouth, visual disturbance, gastric disturbance, and confusion. In most cases these effects disappeared early in treatment with adjustment of dosage.

Compound 08958 used in this study was supplied by Eli Lilly and is now marketed under the trade name Pagitane Hydrochloride.\*

#### Isoniazid In Psychiatry

Salzer and Lurie report a new use for isoniazid, the new antituberculosis remedy. Their study appeared in *Arch. Neurol. Psychiat.* 70:317 (Sept.) 1953. A series of 41 patients suffering from depressions and anxieties of varying degrees were given 50 mg. of isoniazid orally three times a day for a week, then 100 mg. three times a day if tolerance permitted. It was noted that parenteral administration (100 mg. three times a day) was sometimes effective after failure of response to oral therapy.

If treatment was effective, it was thought that most patients would respond within three weeks after therapy was begun. There was an overall improvement experienced in 68 percent of the patients treated. Drug therapy was continued several weeks after symptoms of depression disappeared.

#### Khellin For Asthma Relief

A new use for the coronary dilator, Khellin, was reported by Mulligan in *Ann. Allergy* 11:313 (May-June) 1953. In a series of 28 asthmatic patients, 22 obtained good results, 4 experienced fair results, and 4 were not relieved. The dosage used was 40 mg. orally, 2 or 3 times daily. Nausea was the chief side effect noted in this series of patients but only one patient discontinued therapy for this reason.

#### Achromycin—A New Antibiotic

Achromycin\* (Lederle) is known chemically as tetracycline. According to a release by Lederle Laboratories, papers on the pharmacology, chemistry, and clinical studies of this new antibiotic were presented October 28, 1953 at the Antibiotics Symposium sponsored by the Division of Antibiotics of the Food and Drug Administration.

Achromycin is produced by the catalytic reduction of Aureomycin. Its action parallels closely that of Aureomycin; it is not effective against small viruses or fungi. It is stated that Achromycin produces fewer side effects than Aureomycin.

EDITOR'S NOTE: Pagitane Hydrochloride is now available from Eli Lilly and Company. See page 511 of this publication.

Achromycin has recently been released by Lederle Laboratories. See advertising, page 466 of this publication.



## ★ TIMELY DRUGS

### Blutene

...tolonium chloride, Abbott, is the first oral nonhormonal drug for treatment and prevention of functional uterine bleeding. Blutene Chloride is taken in the form of small sugar coated tablets instead of by injection as in estrogenic therapy for functional uterine bleeding. One course of treatment usually relieves symptoms although in long-standing cases of abnormal bleeding it is sometimes necessary to extend treatment over two or three menstrual periods. The dosage is two to three tablets per day (taken at meals) at the time of bleeding. Blutene is supplied in 100 mg. tablets.

### Bristamin APC Tablets

... is a combination of Bristamin (Bristol Laboratories brand of phenyltoloxamine) plus aspirin, phenacetin and caffeine. The combination of an antihistamine and APC provides in one dosage form an agent which will give rapid and measurable relief from both local coryza manifestations and constitutional symptoms with safety and freedom from or few side effects. Each Bristamin APC tablet contains Bristamin Dihydrogen Citrate (equivalent to 25 mg. of Bristamin base); 0.21 Gm. acetylsalicylic acid; 0.15 Gm. phenacetin; and 0.03 Gm. Caffeine. Bristamin APC Tablets are indicated in the treatment and suppression of rhinorrhea and allergic-like symptoms as well as for the relief of the headache and muscular aches and pains accompanying the common cold. For best results Bristamin APC Tablets must be given at the onset of symptoms. Two tablets should be taken as soon as the first signs of a cold appear. Subsequently a dosage of one tablet every four hours is employed for the first day. On

the second and third days, one tablet every four hours is the dosage employed for four doses. Therapy should be limited to three days. Children between the ages of six and twelve years should receive one-half the adult dosage. The treatment of advanced colds may well respond to the above dosage insofar as alleviating and/or reducing the severity of the cold symptoms.

### Cafergot

... is now supplied by Sandoz in suppository form. Each suppository contains 2 mg. ergotamine tartrate and 100 mg. caffeine in a cocoa butter base.

### Calcium Disodium Versenate

... is a preparation of the calcium chelate of ethylenediamine tetraacetic acid (also referred to as EDTA or Versene) indicated in the treatment of acute and chronic lead poisoning. Calcium Disodium Versenate is supplied in 5 cc. ampuls for intravenous administration by Riker Laboratories, Inc.

### Centrine

... is a new anti-cholinergic drug introduced by Bristol Laboratories. Chemically, it is *alpha-alpha*-diphenyl-*gamma*-dimethylaminovaleamide and is identified generically as aminopentamide.

### Cilloral Suspension

... is a stable liquid preparation of the soluble salts of penicillin. The new product is "ready-to-use" requiring no compounding prior to dispensing and may be stored at normal room temperatures for two

years. While tablets of the penicillin salts are widely employed in the treatment of many infections caused by penicillin-sensitive organisms, the advent of Cilloral Suspension in a one teaspoonful dose containing 300,000 units of penicillin G potassium, provides a highly suitable dosage for children and those adults who prefer liquid medication to the tablet dosage form. Cilloral Suspension is supplied by Bristol Laboratories.

### Cortef

... in the form of compressed tablets is being supplied by The Upjohn Company. Cortef is a brand of hydrocortisone, each tablet containing 10 mg. of the active ingredient. The over-all therapeutic and hormonal effects of hydrocortisone administered orally are similar to cortisone acetate. Clinical evidence has established that smaller amounts of hydrocortisone will be needed to effect equivalent improvement in patients with rheumatoid arthritis, the dosage ratio being about 70 mg. of Cortef to 100 mg. of cortisone. Cortef is used in rheumatoid arthritis to relieve inflammation and restore joint function. Cortef is administered orally, the daily dosage being given in three or four divided doses. As with cortisone, this will vary with the individual patient and severity of condition. For both initial suppression and maintenance therapy the dose is 70 percent of the cortisone dosage. Precautions and contraindications are the same as for cortisone.

### Deltamide W/Penicillin

... is a combination of penicillin with four sulfonamides recently made available from The Armour Laboratories. Each tablet or tea-

spoonful (5 cc.) contains:

Sulfadiazine	0.167 Gm.
Sulfamerazine	0.167 Gm.
Sulfamethazine	0.056 Gm.
Sulfacetamide	0.111 Gm.
Potassium	

Penicillin G 250,000 Units  
Each tablet or each teaspoonful provides 0.5 Gm. of total sulfonamide plus 250,000 units of the penicillin. The tablets are buffered with calcium carbonate and the chocolate-flavored suspension with sodium citrate. The suspension is in a 60 cc. bottle containing dry powder. Addition of 40 cc. of water provides two ounces of suspension, stable for one week if refrigerated.

Deltamide W/Penicillin is indicated in infections due to group A beta hemolytic streptococci, pneumococci, meningococci, gonococci, some staphylococci, and other micro-organisms sensitive to sulfonamides and penicillin. The sulfonamides and penicillin show a synergistic action against some organisms.

The dosage schedule in terms of the sulfonamides is outlined on the package and the usual precautions recommended for sulfonamide therapy should be observed.

#### Dextran 6% W/V in Saline

... is a pyrogen-free, sterile intravenous solution of specially prepared dextran six percent w/v in isotonic sodium chloride solution. It is for intravenous use in maintaining plasma volume and blood pressure in the treatment of burns and shock states. Dextran is administered intravenously at the rate of 20 to 40 cc. per minute. The usual dose is 500 cc., although this amount may be increased as the clinical condition requires. Dextran Six Percent W/V in Saline is supplied by Abbott Laboratories.

#### Erythrocin

... Abbott's name for erythromycin, is now supplied in a new dosage form of 200 mg. tablets. Indicated in pharyngitis, tonsillitis, otitis media, sinusitis, bronchitis, pneumonia, scarlet fever, erysipelas, pyoderma, certain cases of osteomyelitis and other infectious conditions, Erythrocin is a selective antibiotic recommended especially against infections produced by staphylococci, streptococci and pneumococci.

#### Erythrocin Ointment

... containing one percent erythromycin, is a topical antibiotic preparation available from Abbott Laboratories. Used for the treatment and prevention of pyogenic lesions of the skin, Erythrocin is indicated against both primary staphylococcal and streptococcal skin infections and chronic dermatologic conditions secondarily infected with these organisms, especially gram positive strains which have developed resistance to—or are naturally resistant to—other antibiotics.

#### Gevrine

... is a new vitamin, mineral, hormone product supplied by Lederle Laboratories. It was developed to meet the requirements for vitamins and minerals needed in normal metabolism, and to provide the positive effects on protein and bone maintenance that are produced by the estrogen and androgen hormones.

#### Gynetone Repetabs

... is a combination of ethinyl estradiol and methyltestosterone for the treatment of the menopause and osteoporosis as well as for the management of geriatric patients where hormonal supplementation is desirable. Repetabs are supplied in two forms—the ".02" which contains 0.02 mg. ethinyl estradiol plus 5 mg. methyltestosterone, and the ".04" which contains 0.04 mg. ethinyl estradiol plus 10 mg. methyltestosterone. Supplied by Schering Corporation, Repetabs offer the advantages of more uniform effects and more complete hormone utilization results, all with the convenience of a single-dose therapy. "Divided-dose" tablets which provide half the total dose for immediate absorption and the remaining half for absorption about four hours later is an added advantage.

#### Pagitan Hydrochloride

... is a preparation available from Eli Lilly and Company for use in the symptomatic treatment of all forms of Parkinson's disease. For oral administration, Pagitan is available in either 1.25 mg. or 2.50 mg. tablets. Chemically, it is

cycrimine hydrochloride (1-phenyl-1-cyclopentyl-3-piperidino-1-propanol hydrochloride). (See *Therapeutic Trends*, page 509).

#### Paladac

... is a new liquid vitamin preparation of nine vitamins including A, D, C, B-complex factors and B<sub>12</sub>. Supplied by Parke, Davis and Company, Paladac is used in the prevention and treatment of vitamin deficiencies. Although especially appropriate for children, it is equally suitable for adolescents and adults, and can be adapted for geriatric patients. A 4 cc. teaspoonful exceeds the established minimum daily vitamin requirements for infants, children and adults. Paladac has an evenflowing consistency with the color and aroma of orange juice and a palatable orange flavor.

#### Quertine

... Quercetin, Abbott, is the active ingredient of rutin and is said to be a superior drug for hypertensive patients displaying a tendency to hemorrhage due to capillary dysfunction and also for use in certain other hemorrhagic syndromes, hemorrhagic diabetic retinitis, and hereditary telangiectasia. Quertine may be effective in cases not responding to rutin and is active in lower dosage. It is also available with ascorbic acid for use in conditions in which vitamin C deficiency may coexist with capillary dysfunction.

Quertine is supplied in 10 mg. and 20 mg. tablets and in 10 mg. tablets with ascorbic acid, 50 mg. The recommended dosage for prevention of hemorrhage in hypertensive patients is 10 to 20 mg. orally three times daily for several weeks or until the Göthlin petechial index or the rate of cutaneous lymphatic flow becomes normal. This dosage schedule is also suggested for treatment of other hemorrhagic syndromes and conditions with associated capillary dysfunction.

#### Quelicin Chloride

... is Abbott's name for succinylcholine chloride which is a short acting muscle relaxant of low toxicity for general surgical pro-



cedures. Quelicin is especially recommended to facilitate endotracheal intubation, endoscopic examination and orthopedic manipulation. Its rapid onset and short duration of action make it useful in overcoming laryngospasm and in lessening muscular contractions which occur during electroshock therapy. Quelicin is also recommended at the end of surgical procedures where added relaxation is desired for closure of the abdomen. Although requiring refrigeration, solutions will not decrease in potency if kept at room temperature 24 to 48 hours.

Quelicin is supplied in 10 cc. multiple dose vials containing 20 mg. per cc. and in 10 cc. ampuls containing 50 mg. per cc. It is contraindicated in patients with severe liver disease, severe anemia, severe malnutrition and insecticide poisoning. Quelicin should be used only by skilled anesthesiologists who have at hand facilities for controlled respiration and administration of oxygen, if needed. Since the duration of action is brief, the surest antidotes are oxygen and maintenance of ventilation and circulation.

The dosage schedule varies with the procedure and the patient.

### Revicaps

... for the control of obesity, are supplied by Lederle Laboratories. Each capsule contains 5 mg. of *d*-amphetamine sulfate and 200 mg. of methylcellulose. In addition, each capsule supplies vitamins A, B<sub>1</sub>, B<sub>2</sub>, B<sub>6</sub>, B<sub>12</sub>, C, and D, and minerals essential to a well-balanced diet. The average dose is one or two capsules, three times daily, half an hour to an hour before meals. The dosage should be adjusted to the individual patient, and should be the minimum number of capsules necessary to reduce appetite. It is also desirable that a low caloric intake be maintained.

### Risa

... (radioactive iodinated serum albumin) is a new research and diagnostic tool with clinical application in cases of burns and shock. Supplied by Abbott Laboratories, approval for production has been granted by the National Institutes of Health. It is the first radioactive biological ever licensed by the National Institutes.

Risa provides a rapid yet reliable means of determining whether blood or other fluids need to be replaced in the body and how much solution should be administered. It also is proving valuable in the studies of the circulation of the blood, particularly in cases where injury, disease or obstruction of major vessels might lead to gangrene.

To make the diagnosis, the physician first injects the harmless radioactive iodo-albumin into the patient's veins and, a few minutes later, withdraws a blood sample. He then uses an ordinary Geiger counter to measure the radioactivity of the sample. This indicates how much the albumin has been diluted in the blood stream and, consequently, how much fluid needs to be replaced in the body.

Diagnostic uses of Risa also include detecting brain tumors from outside the skull and locating obstructions in the spinal canal. Radioactive iodinated albumin behaves exactly like normal albumin in the blood stream except that the radioactive iodinated particles are picked up at the site of tumors. The doctor injects the radioactive albumin into the vein and then moves his Geiger counter over the suspected area to measure the amount of radioactivity and thus locate the tumor or obstruction.

### Roniacol with Aminophylline

... provides in a single, conveniently administered tablet the rapid vasodilating action of Roniacol together with the slower but more prolonged effect of aminophylline. It usually offers prompt yet sustained control of symptoms in vasospastic disorders. Supplied by Hoffmann-La Roche Inc., each scored tablet contains 50 mg. of Roniacol and 100 mg. of aminophylline in a base containing magnesium trisilicate U.S.P. Roniacol with Aminophylline is recommended for conditions requiring a vasodilator, such as vascular spasm, peripheral arteriosclerosis, Raynaud's disease, endarteritis, Buerger's disease, intermittent claudication, varicose ulcers, decubital ulcers, chilblains and migraine associated with vascular spasm. In addition, Roniacol with Aminophylline is recommended for angina pectoris, as an adjunct in the treatment of congestive heart failure, and to enhance cerebral circulation.

### Stresscaps

... is a vitamin formula intended to supply the increased needs of patients subjected to such stress as severe illness, burns, surgery, fractures, etc. Stresscaps are available in capsule form from Lederle Laboratories, each capsule containing ascorbic acid, 300 mg.; thiamin mononitrate, 10 mg.; riboflavin, 10 mg.; niacinamide, 100 mg.; pyridoxine hydrochloride, 2 mg.; calcium pantothenate, 20 mg.; vitamin B<sub>12</sub> activity, 4 mcg.; folic acid, 1.5 mg.; and menadione (vitamin K analog), 2 mg.

### Tarquinor

... a crude coal tar cream which does not discolor the skin or stain the clothing is available from E. R. Squibb and Sons. For use in the treatment of a wide range of skin disorders, Tarquinor contains rigidly standardized whole crude coal tar in keeping with the fact that purification of the tar results in loss of therapeutic effectiveness.

### Teridax

... for gall bladder visualization, is a preparation of triiodoethionic acid available from Schering Corporation. For use in a cholecystographic medium, Teridax offers greater flexibility of dosage providing optimum density without confusing shadows in the colon. It has a low systemic toxicity and low level of side reactions. Teridax is supplied in 0.75 Gm. tablets and the average dose is five tablets.

### Tussar

... is a new cough syrup made available by The Armour Laboratories. It contains the antihistamine, propenpyridamide maleate combined with dihydrocodeinone bitartrate. Tussar is said to control even obstinate hacking coughs symptomatically through mild expectorant and exceptional soothing action. It is indicated in irritating coughs associated with allergic conditions; chronic non-specific bronchitis; post-influenza cough; acute pharyngitis with cough; cough and allergic manifestations in the common cold; and non-productive irritating cough in chronic pulmonary disease.



# CURRENT LITERATURE

Edited by SISTER MARY ETHELDREDA, *St. Mary's Hospital, Brooklyn, N.Y.*

## *American Professional Pharmacist*

SEPTEMBER, 1953—"Hospital Pharmacy Relationships." Presents the views of an Administrator, a Director of Nurses, an Educator, and a Physician on the professional relationships with hospital pharmacy as expressed at a panel discussion at the Institute for Hospital Pharmacists at Loyola University in Los Angeles. *page 730*

OCTOBER, 1953—"A Lifetime in the Profession" by Harry Towers, Retail Distributing Manager, E. R. Squibb & Sons. A non-hospital pharmacist suggests fundamentals on which the professional individual reaffirms his usefulness to others. *page 828*

"Systematized Outpatient Prescription Renewals," by Edward Stempel. Describes the method of control in prescribing medication in a city free outpatient clinic or dispensary to prevent waste. *page 835*

Presents a table of "Useful Formulae" for cold disinfection for hospital use. *page 836*

## *Hospital Management*

SEPTEMBER, 1953—"Drug Charges—A Small Hospital Problem," by Sister Mary Daniel, O.S.F. Describes the discrepancies in the charges for drugs as compared in several hospitals and retail drug stores. Suggests a formula for uniform pricing. *page 74*

OCTOBER, 1953—"Convenient to Outpatients" by William W. Taylor, Chief Pharmacist, North Carolina Memorial Hospital. Describes the operation and setup at this newly opened hospital and presents plans for future development of service. *page 80*

## *Hospital Progress*

AUGUST, 1953—"Public Relations and the Pharmacist," by Thomas E. Sisk, Pharmacist, St. Joseph's Hospital, Lorain, Ohio. Adapted from an address delivered at the C.H.A.'s Fifth Annual Institute for Hospital Pharmacists, Kansas City, Mo. Describes the importance of the hospital

pharmacist realizing his position toward maintaining good relationships within the hospital and with other professional groups. *page 72*

SEPTEMBER, 1953—"Durham-Humphrey Bill is in the Public Interest," by George H. Frates, Washington Representative, National Association of Retail Druggists. Adapted from an address delivered at the Institute. Explains the development and implications of this bill and the ways in which the hospital pharmacist can help the profession in acquainting the medical profession with its provisions. *page 88*

OCTOBER, 1953—"The Control of Drugs" Part I of a two-part article on the Federal Food, Drug and Cosmetic Act, by Irvin Kerland, M.D., Acting Med. Director, Food and Drug Administration. Describes the organization, technical divisions and service to the public in the interest of their welfare. *page 98*

## *J. Am. Pharm. Assoc., Pract. Pharm. Ed.*

OCTOBER, 1953—"Minimizing Infection Hazards in Compounded Ophthalmic Solutions." Includes a summary of recent statements made in regard to contamination in ophthalmic solutions. Two articles presented at the A.Ph.A. Convention outline suggested techniques to minimize the danger of contamination. *page 642*

## *Modern Hospital*

OCTOBER, 1953—"5-Hydroxytryptamine (Serotonin : Enteramine)." by Angelo J. Spinazzola, B. S. and Theodore R. Sherrod, Ph.D., M.D. Presents the theory of the possible physiological, pathological, or pharmacological role this substance may have. *page 108*

## *Southern Hospitals*

NOVEMBER, 1953—"An Educator Views Hospital Pharmacy," by Douglas Johnson, Ph.D. Describes the preparatory education of pharmacy students for the retail field and compares this preparation with the more important requirements necessary to fill the role of hospital pharmacist. *page 59*

# Notes and Suggestions

## PRACTICAL FORMULAS FOR USE IN HOSPITALS

### CASTOR OIL EMULSION 50%

A formula for an easily prepared castor oil emulsion has been submitted by Mary P. Hall who is Head Pharmacist at the Firland Sanatorium in Seattle, Washington. Miss Hall writes that two ounces of the emulsion is used in place of one ounce of castor oil. The emulsion is readily prepared by shaking and, although it creams somewhat upon standing, it shakes out immediately.

Castor Oil	50 Gm.
Tween 80	1 Gm.
Flavored Water, to make	100 cc.

Add Tween to castor oil, shake, add flavored water, and shake. The flavored water for castor oil emulsion is made by adding 0.7 gram of vanillin; 20 grams of cyclamate (Sucaryl) sodium (133 cc. of the 15 percent solution or 160 tablets); and 0.6 gram of butylparaben (Butoben) to 4,000 cc. of distilled water.

### PALATABLE PARALDEHYDE MIXTURE

In view of the unpleasant nature of paraldehyde from the patient's point of view, and the difficulties encountered in its dispensing. M. F. Philips reported in the *British Pharmaceutical Journal* 169:206, 1952 the following mixture as an aid in overcoming these difficulties:

Paraldehyde	48.0 cc.
Emulsion of oil of peppermint	4.0 cc.
Syrup	90.0 cc.
Tragacanth, in powder	1.0 Gm.
Synthetic green coloring	0.3 cc.
Water, to make	360.0 cc.

In this mixture the burning "taste" of the paraldehyde is associated with the peppermint flavor and thus is rendered less objectionable. The finished mixture presents a fairly elegant appearance, a slight shake being sufficient to disperse the medicament evenly.

### PARALDEHYDE INJECTION

Information has been requested as to the method of preparing paraldehyde for intramuscular injection. Paraldehyde injection is included in the *British National Formulary* and a method for its preparation appeared in the *British Pharmaceutical Journal* Volume 149, number 4123, page 152 (November 7) 1942.

Salient points concerning the preparation of paraldehyde injection include the following: Paraldehyde for injection may be sterilized by heating it in an autoclave at 115° C. for 30 minutes. The paraldehyde used should be essentially neutral since the drug undergoes rapid decomposition when heated if the acidity is high. Five cc. of paraldehyde when tested according to the U.S.P. method should require less than 0.1 cc. of 0.1 normal sodium hydroxide for neutralization. Paraldehyde may be neutralized by shaking it with 1 percent of magnesium trisilicate for several minutes, followed by filtration to remove the trisilicate. The drug should be filled and sealed in amber colored ampuls. Paraldehyde cannot be packaged in multiple dose vials because it is affected by contact with rubber.

A commercial source of paraldehyde injection is Buffington's Inc., 8 Sudbury Street, Worcester 8, Mass. It is available in 2, 5, and 10 cc. ampuls.

### STABLE NASAL SOLUTION

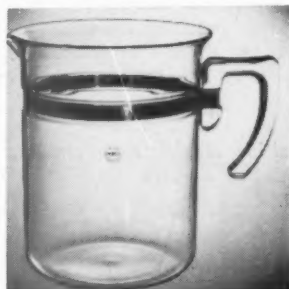
Phenazoline Hydrochloride	0.1250 Gm.
Phenylephrine Hydrochloride	0.2500 Gm.
Sodium Bisulfate	0.0125 Gm.
Dibasic Sodium Phosphate	0.3330 Gm.
Potassium Acid Phosphate	0.1670 Gm.
Potassium Chloride	0.3440 Gm.
Sodium Chloride	0.2180 Gm.
Methylcellulose, 4000 cps	0.1000 Gm.
Zephiran Chloride Solution	
1:5000, to make	100.0000 cc.

This solution is stable and has a pH of 6.75. It is nonirritating to the upper respiratory tract mucosa and has a slightly salty taste. It does not irritate the conjunctiva.

This nasal solution may be used alone or in combination with certain other drugs, but it is incompatible with streptomycin and tyrothricin, or with any other substances which are incompat-

ible with phosphates.. This formula for a stable nasal solution has been given by E. A. Thacker in *Modern Formulation, Drug and Cosmetic Review*, 1952-53, page 285.

#### BEAKER WITH HANDLE



A three-liter Pyrex beaker with a handle is made by Corning Glass Works. The glass handle is attached with a stainless steel band which also acts as a protective collar. Handles and bands may be used interchangeably. This beaker should be very useful in hospital pharmacies, especially for heating and pouring hot liquids.

#### LOTION VEHICLE

Cetyl Alcohol	15 Gm.
White Wax	1 Gm.
Glycerin	50 cc.
Sodium Lauryl Sulfate	5 Gm.
Water, to make	1000 cc.

This lotion, intended solely as a vehicle for dermatologic medicaments, was tested with the following drugs in the proportions commonly used in practice: calamine, zinc oxide, precipitated sulfur, precipitated sulfur and salicylic acid, cade oil, ammoniated mercury, phenol, menthol, Whitfield's combination, coal tar solution, ichthammol, boric acid, starch, benzocaine, talc, and resorcinol. The lotion was found to be fully compatible with all of the medicaments tested except cade oil. The lotion made with cade oil showed a slight separation into layers after standing for 14 days, but when shaken the lotion was satisfactory. This formula was developed by Professors L. E. Ohmart and M. J. Stoklosa of the Massachusetts College of Pharmacy.

#### SAFETY BOOKLET AVAILABLE

A 48 page "Manual of Laboratory Safety" discussing accident prevention, first aid, fire prevention, safety equipment, and a safety bibliography is available from Fisher Scientific, 717 Forbes Street, Pittsburgh 19, Pennsylvania.

The following three formulas have been submitted by Mr. Frank J. Steele, Chief Pharmacist of The Greenwich Hospital Association, Greenwich, Conn.

#### ELIXIR OF ASPIRIN

Aspirin	20.0 Gm.
Sodium Citrate	60.0 Gm.
Sucrose	150.0 Gm.
Tincture of Orange	60.0 cc.
Distilled Water	125.0 cc.
Orange Color	1.0 cc.
Amaranth Solution 1 %	0.6 cc.
Glycerin, to make	500.0 cc.

Because of its instability, elixir of aspirin should be freshly prepared.

#### SULFATHIAZOLE SUSPENSION 20%

Sulfathiazole	50.00 Gm.
Gelatin	0.80 Gm.
Sodium Ethyl Mercuri Thiosulfate	0.01 Gm.
Cellulose Gum 2 % Solution	30.00 cc.
Normal Saline Solution, to make	200.00 cc.

#### STREPTOMYCIN OINTMENT

Streptomycin Sulfate	2 Gm.
Aquaphor	29 Gm.
Cold Cream, to make	60 Gm.

#### CAUTION-LABEL DISPENSER

Fisher Scientific Co. has designed and made available a cellulose tape dispenser for identifying hazardous chemicals. Labels read "Corrosive", "Flammable", and "Poison." Each roll, 648" by 1/2", contains approximately 200 labels, and fits onto a metal wheel of the dispenser with each wheel turning independently of the others.

The dispenser is of cast iron with serrated tear off edges. It sells for \$17.00, which includes one roll each of the "Flammable", "Corrosive", and "Poison" tapes. A fourth roll is available which reads "Radioactive" and sells for \$2.75, as does each additional roll of the others.

#### VITAMIN A AND D OINTMENT

Vitamin A (water-soluble)	150,000 U.
Vitamin D	50,000 U.
Lanolin, Anhydrous	10 Gm.
Hydrophilic Petrolatum U.S.P., to make	100 Gm.

Vitamin A and D Ointment has long been used for irritations, fissures, ulcerations, diaper rash, etc. to hasten epithelization and healing. The advent of water-soluble vitamin A greatly improves the heretofore objectionable odor of oil-soluble vitamin A. This formula appeared in *Drug and Cosmetic Ind.* 73:35 (July) 1953.



# BOOK REVIEWS

**PHARMACOLOGY AND THERAPEUTICS IN NURSING.** Second Edition, 1953. By Marion Sylvester Dooley, A.B., M.D. and Josephine Rappaport, R.N., M.A. 9¼" x 6¼", 486 pages. Published by McGraw-Hill Book Company, Inc., New York, Toronto, and London. Price \$4.50.

This second, revised edition provides a refreshing and effective approach to a subject whose many ramifications have always offered a challenge. The material has been extensively rewritten and made current with respect to recent advances in drug therapy as they apply to nursing.

The prime objective of this text has been to maintain a functional approach by correlating the classroom study of drugs with actual bedside application. The ultimate aim is that of coordination with other subjects in the curriculum to provide a unified system of nursing care. Thus the student acquires an understanding of the physical and mental condition of patients afflicted with any given type of ailment, and then observes the effects which drug therapy in correlation with other nursing care have on given symptoms.

The value of this text has been enhanced by a special section toward the close of each chapter, which summarizes the practical, nursing aspects of the drug group covered in the chapter. This includes such matters as special nursing care, the observations which should be made as to drug effect, and important factors related to the patient's mental and physical needs during any given course of therapy. In addition, a helpful "Assignment" section closes each chapter, posing questions aimed to assist the student in crystallizing salient features concerning each class of drugs under discussion. Sections on "Drug Administration," "General Features of Drugs," and "Measurements and Computations," complemented by meaningful laboratory exercises, are especially good. Reference reading suggestions and a list of visual aids are included. Conscious of the unfortunate and unsafe "double standard" imposed by the use of both the metric and the apothecary systems of measure, the authors describe the conversions between both systems, but, commendably, place emphasis on the metric system.

Among the noteworthy features of this text is the fact that the authors do not write "over the heads" of the reader and, throughout, endeavor to make a difficultly learned subject as simple and understandable as possible. Repeatedly, points of misconception about particular agents are brought to light. Practical information is given about the administration of the drug, the things to watch both as to expected effect and toxic manifestations, and clear explanations are made of the physiologic and pharmacologic processes taking place. The whole method of presentation is refreshing, authoritative, and possesses a distinctive originality in thought and expression.

Of particular note is the fact that the authors have been uniquely successful in reducing an encyclopedic subject to manageable form by discussing representative drugs in each of twenty-eight physiologic or therapeutic categories. What a nursing director recently characterized as the "smattering of education" received or ab-

sorbed by a nurse in connection with drug matters perhaps is attributable to an attempt to teach her a little about a vast number of items instead of imparting fundamental knowledge about representative agents. This situation is so much more acute because it exists in the midst of an already crowded curriculum. The authors of this book have taken a progressive step in meeting this problem.

J. SOLON MORDELL

*Division of Civilian Health Requirements  
U. S. Public Health Service  
Washington, D. C.*

**ANTIBIOTICS.** 1953. By Robertson Pratt and Jean Dufrenoy. 9¼" x 6¼", 398 pages. Published by J. B. Lippincott Co., Philadelphia. Price \$7.50.

No group of drugs today can challenge the position of the antibiotics in usefulness, in rate of usage, in economic importance, in research priority, or in social significance. Thus the appearance of the second edition of *Antibiotics* which presents in "a succinct, integrated plan the facts and principles of fundamental and permanent value relating to antibiotics" will be welcomed by those hospital pharmacists who have become somewhat overwhelmed in attempting to follow current literature on the subject.

*Antibiotics* is a useful book and a practical one because it answers the questions which are important in the daily use of this growing class of drugs. Discussed in well organized detail are the significant facts concerning fourteen of the most commonly used antibiotics. Of particular value is the well defined presentation of indications for the use of the various antibiotics, when they are effective, what their particular advantages and disadvantages are, and the relationships among the various members of the antibiotic family. Each drug is discussed from a viewpoint of its historical background, chemical structure and modifications, and therapeutic applications. In addition, a section describing the industrial aspects of antibiotic production is included. One of the most interesting sections, and one which provides a good basis for better understanding of all antibiotic agents, is devoted to the fundamental aspects of antibiotics. Included in this section is a discussion of the concept of antibiosis which, as the authors point out, goes back on an empirical basis to the Chinese 2,500 years ago and on a scientific basis, at least to the time of Pasteur.

The rationality, indications, and choice of preparations for mixed antibiotic therapy are subjects which are handled in a lucid manner, as is the problem of resistance and cross-resistance, and of the mechanism of antibiotic action. There is a unique and useful schematic presentation of those antibiotics which are effective in various infectious diseases and the specific agent of choice. The chapters on antibiotics in dental practice, in veterinary practice, in plant pathology, and in food processing help to emphasize the unusual importance of this group of drugs.

Hospital pharmacists and all who are in any way concerned with antibiotics will find Messrs. Pratt and Dufrenoy's book, *Antibiotics*, a veritable storehouse of useful information presented in an orderly and interest-



ing manner. It would be a valuable reference book to have in the hospital pharmacy.

DON E. FRANCKE

University Hospital  
Ann Arbor, Michigan

POISONING, 1952. By W. F. Von Oettingen, M.D., Ph. D. 6" x 9". 524 pages. Published by Paul B. Hoeber, Inc., New York. Price \$10.00.

This unusual book is designed for the physician as a guide to the clinical diagnosis and treatment of poisoning. It would also serve well in the library of the hospital pharmacy.

This work has been divided into four parts. The first part deals with introductory subjects and ideas as they relate to diagnosis, classification, and medicolegal considerations. This section contains a tabulation entitled "Drugs and Chemicals for the Treatment of Poisoning." Listed in the tabulation is the dose, concentration of the drug or chemical, and the amount that should be on hand. Such a table might well serve as a fundamental guide to a hospital pharmacist in equipping the Emergency Department of a hospital.

Part two deals with diagnostic methods and procedures where poisoning is suspected and the offending agent is unknown. A chapter is devoted to each physiological area—respiration, circulation, digestion, glands, hemopoietic, etc.—that might be affected. At the beginning of each of these chapters symptoms of poisoning related to that physiological area are listed in alphabetical sequence. Then each of these symptoms is discussed and an alphabetical list of toxicants appears under the symptom they produce.

Part three deals with management generalizations of the poisoned individual. Removal, elimination, and detoxification of the toxic agent are discussed as they relate to rational treatment where the poison is a known or unknown quantity. Here also, specific recommendations are made for symptomatic treatment of usually encountered pathological reactions to poisons, e.g.: circulatory failure, syncope, nausea, coma, etc.

Part four, which represents well over half the book, is entitled "Symptoms and Treatment of 61 Types of Poisoning." It is the most complete and authoritative work in this connection that this reviewer has seen. It is this part of the book that would be most valuable to the pharmacist who receives calls from physicians and others asking for advice relative to poisons or poisoning.

References are listed throughout the text; and what appears to be an adequate index is appended.

LEO F. GODLEY

Bronson Methodist Hospital  
Kalamazoo, Michigan

PHARMACOLOGY IN CLINICAL PRACTICE. 1952 Edition. By Harry Beckman, M.D. 6½" x 9¾", 839 pages. Published by W. B. Saunders Company, Philadelphia, Pa. Price \$12.50.

*Pharmacology in Clinical Practice* differs in its approach from most textbooks on pharmacology. The main subject headings are specific diseases rather than drugs. Following the main headings are the various drugs used in the treatment of the malady under consideration. This arrangement is based upon the author's conviction that the physician reasons not from the drug to the disease, but rather from the disease to the drug.

The book also contains in a separate section an alphabetical list of the drugs discussed, together with dosage forms and other helpful information. The index has been carefully compiled and its completeness facilitates the use of the book.

It is not a basic or elementary pharmacology text in the usual sense of the term. Rather, as the title implies, its field is the clinical application of pharmacologic principles. Thus, *Pharmacology in Clinical Practice* appears to be particularly useful to medical practitioners and at the same time its unique arrangement, as well as its excellent discussions of the various therapeutic agents, makes it a very valuable reference book for the hospital pharmacists' library.

DON E. FRANCKE

University Hospital  
Ann Arbor, Michigan

FORMULARY OF THE PETER BENT BRIGHAM HOSPITAL. 1953. Compiled and Edited by William E. Hassan, Jr., Ph.D. and Dale G. Friend, M.D. 7¼" x 5", 211 pages. Available from Pharmacy Department, Peter Bent Brigham Hospital, Boston, Mass. Price \$3.50 plus \$0.25 mailing charge.

This formulary is the result of the joint effort of the Pharmacist-in-Chief and a Senior Associate in Medicine. Presented in loose leaf form, it offers the advantage of keeping the book up-to-date and is easily used. Preparations are classified with dividers marking each Section as follows: Oral and Injectables, Dermal, Eye, Ear, Nose, Throat, Rectal, Vaginal, Diagnostic Aids, Biologicals, Dietetic and Therapeutic Aids. Supplementing this is an adequate alphabetical Index and a Modified Therapeutic Classification of Drugs which provides a ready reference to medicinal agents under their pharmacological classification.

The *Formulary of the Peter Bent Brigham Hospital* is intended to cover the needs of this particular institution and, as stated in the Preface, it "has been prepared in order to assist members of the staff in the selecting, prescribing, and ordering of drugs."

GLORIA NIEMEYER

American Pharmaceutical Association  
Washington, D. C.

## BOOK NOTICE

TESTS AND STANDARDS FOR NEW AND NON-OFFICIAL REMEDIES. 1953 Edition. By The Chemical Laboratory, American Medical Association, accepted by the Council on Pharmacy and Chemistry of the A. M. A. 4¾" x 7½", 327 pages. Published by J. B. Lippincott Company, East Washington Square, Philadelphia 5, Pennsylvania. Price \$4.00.

This year for the first time the Tests and Standards section of *New and Nonofficial Remedies* has been issued as a separate book. Thus *Tests and Standards for New and Nonofficial Remedies 1953* contains definitions, structural formulas, physical descriptions, tests for identity and purity, methods of assay for the active ingredients and dosage forms, and tolerance limits of drugs accepted by the Council on Pharmacy and Chemistry and for which official standards are not available. It is a valuable adjunct to the hospital pharmacist's library as a companion volume to *New and Nonofficial Remedies*.



# A.S.H.P. AFFILIATES

## Puget Sound Area

Joseph Birmingham, Pharmacist at the Veterans Administration Hospital in Seattle, has been elected president of the Hospital Pharmacists of the Puget Sound Area. Other new officers include Vice-President Elmer M. Plein of the College of Pharmacy, University of Washington, Seattle; Secretary Roberta Dodds, Swedish Hospital, Seattle; and Treasurer Leslie Collins, U. S. Indian Hospital, Tacoma, Washington.

## Michigan Society

Members of the Michigan Society of Hospital Pharmacists met at University Hospital in Ann Arbor for the October 8 meeting. Mr. John Zugich, Assistant Director of University Hospital and a former hospital pharmacist, reported on the Institute which was held in California in June. Mr. Zugich who was a member of the Institute Faculty, also showed slides taken at the meetings.

Included also on the program was a report on the A.Ph.A. Convention and ASHP Annual Meeting by the official delegates from the Michigan Society, Mrs. Jane Rogan and Mr. Adam Stark.

## Greater St. Louis

Thirteen members were present for the September 13 meeting of the Hospital Pharmacists' Association of Greater St. Louis. New members accepted for affiliation with the St. Louis group include Sister Cecelia Marie Peterman, Sister Mary David Kreig, Miss Agnes Wajert, Mr. Tom Mohan and Mr. Joseph Guller.

Reports on the annual meeting of the ASHP were presented by those who attended, including Sister Mary Berenice, Mr. Armand Dellande and Mr. Francis Rudi.

The October 13 meeting was held at the St. Louis College of Pharmacy. A general discussion con-

cerning meeting places, programs, sponsorships and means of inducing members to participate was included on the program. Mr. Armand Dellande presented a paper on hospital pharmacy for use in connection with public relations programs.

Plans were made for compiling a list of commonly used drugs for selling price comparison and a panel discussion on the subject was scheduled for the February meeting.

## Alabama Society

The Alabama Society of Hospital Pharmacists has adopted plans to carry out the following special projects:

- To cooperate with the Alabama Hospital Association.

- To work out simplified procedures for use in small hospitals in establishing safe, adequate hospital pharmacy practices.

- To assist hospitals in placing pharmacists.

To become members of the Alabama Pharmaceutical Association and urge the State Board of Pharmacy to register existing pharmacies in hospitals.

## Maryland Society

The Maryland Society of Hospital Pharmacists sponsored the Pharmacy Section which was held in conjunction with the Thirteenth Annual Conference of the Maryland-District of Columbia-Delaware Hospital Association. More than sixty hospital pharmacists were present for the meeting which was held at the Lord Baltimore Hotel in Baltimore on November 10. The program was presided over by Arthur W. Dodds, Chief Pharmacist, U. S. Public Health Service Hospital, Baltimore.

Speakers included Dr. S. J. Greco, Associate Professor of Pharmacy, School of Pharmacy, George Washington University, Washington, D. C.; Mr. Milton Skolaut, Senior Pharmacist, Chief of the Pharmacy

Department, The Clinical Center, National Institutes of Health, Bethesda, Md.; and Dr. D. L. Tabern, Chief, Radio-Isotope Section, Abbott Laboratories, North Chicago.

Mr. Skolaut presented an illustrated description of the Pharmacy Department at the Clinical Center showing in detail the activities planned for the Department. He showed slides of the Central Supply section which is also under the supervision of the Pharmacist and he concluded that the combination of Pharmacy-Central Supply can be a logical development in hospital organization.

Dr. Tabern discussed the role of the hospital pharmacist in handling radioactive material pointing out the types of equipment and personnel required. He suggested that there is a need for pharmacists to have some background in the use of radioisotopes and there is a growing trend toward offering courses in the Schools of Pharmacy. In conclusion he pointed out that although the hospital pharmacist will never be expected to process radioactive materials, he must be the one who orders the isotopes and makes certain that the drug is properly handled within the institution.

At the end of the meeting, Mr. Stephen W. Ruth, Chief Pharmacist at Church Home and Infirmary, Baltimore, was installed as president of the Maryland Society. Other officers are Vice-President Elizabeth Cassidy; Corresponding Secretary Dudley Demarest; and Secretary-Treasurer Mary Ann Coleman.

## Greater New York Chapter

Sister Mary Etheldreda gave a detailed report of the Catholic Hospital Association's 1953 Institute at the October 20 meeting of the Greater New York Chapter of the ASHP. The meeting was held at Mary Immaculate Hospital in Jamaica where Sister Mary Jeanette is chief pharmacist.

Included also on the program was a report of the recent Convocation of the American College of Hospital Administrators which was held in San Francisco in August. Sister M. Jeanette had participated in the meeting.

Tentative plans were made for future meetings and Sister Mary Bernardine was appointed chairman of the Program Committee for the year. Other members include Sister Maria Joseph, Sister M. Nicodema and Sister Mary Virginia.

#### Mississippi Society

Plans are being made to organize a Mississippi Chapter of the ASHP and all hospital pharmacists in the State have been contacted to determine their interest in the organization. Leaders who are developing the plans are Sister Mary Carl Marty and Mrs. Inez Cameron, both pharmacists at St. Dominics Hospital in Jackson, Mississippi.

#### Western Pennsylvania

Members of the Western Pennsylvania Society of Hospital Pharmacists met at Falk Clinic for the first fall meeting on September 17 at 3:30 P.M. Plans for the year's program were outlined and there was a general discussion of the possibility of the Society cooperating with the local pharmacy schools in providing courses in hospital pharmacy. Two members were appointed to contact Dean Edward Rief of the University of Pittsburgh School of Pharmacy and Dean Hugh Muldoon of Duquesne University School of Pharmacy.

"Treatment with Antibiotics and Terramycin" was the name of a film presented at the October 15 meeting which was also held at Falk Clinic.

#### Southeastern Society

President Allen V. R. Beck was present for the Semi-Annual Meeting of the Southeastern Society of Hospital Pharmacists held at Hotel Patten in Chattanooga, Tenn., October 11 and 12, 1953. Mr. Beck outlined current Society activities and reported on highlights of the ASHP Annual Meeting. President of the Southeastern Society, Miss Johnnie Crotwell, also reported on the Salt Lake City meeting as well as the A.Ph.A. Convention.

Speakers on the program included Dr. Douglass Johnson, Head of the Department of Pharmacology, Southern College of Pharmacy, Atlanta, Ga.; and Mr. Terry Nichols, Chief, Pharmacy Service, Veterans Administration Hospital, Birmingham, Ala.

Among the resolutions passed by the Southeastern Society was one expressing the need for an Institute in the Southeastern Area and suggesting that a formal invitation be extended for either the 1955 or 1956 meetings.

#### Oklahoma Society

Students in hospital pharmacy were guests of the Oklahoma Society at a banquet held at Southwestern State College in Weatherford in conjunction with the October meeting. Following the banquet those present heard reports of the A.Ph.A. Convention and the ASHP Annual Meeting by Dean Walter Strother, Dr. Paul E. Hering and Dr. Charles Schwartz.

#### Northern California Society

The first of a series of six Workshop Sessions was held at the October 13 meeting of the Northern California Society of Hospital Pharmacists. Mr. Stanley Marincik, Chief Pharmacist at the University of California Hospital, served as chairman of the program. The meeting was held at the U. S. Public Health Service Hospital in San Francisco.

New members accepted in the Northern California Society include Miss Jane Hoberg of Permanente Hospital in South San Francisco and Mr. James Zizzo of the University of California Hospital in San Francisco.

#### Akron Area Society

"Retail Pharmacy vs Hospital Pharmacy" was the subject of a talk by Mr. James Manacco at the October 6 meeting of the Akron Area Society. Mr. Manacco is a retail pharmacist in Steubenville, Ohio and is secretary of the Jefferson County Pharmaceutical Association.

#### Arizona Society

Members of the Arizona Society of Hospital Pharmacists partici-

pated in the November 20 meeting of the State Hospital Association with a panel discussion on formularies. Participants included Mr. Rex West, Sister Elizabeth Joseph, Mr. Eli Schlossberg and Dr. Arthur P. Wyss.

Hospital pharmacists in Arizona are proceeding with a survey of their pharmacies in accordance with the Proposed Point-Rating Plan.

#### Northeastern New York Society

The Northeastern New York Society of Hospital Pharmacists met for a picnic on Sunday, September 27. Twenty hospital pharmacists attended.

#### Midwest Sister Pharmacists

Sister M. Vincentiana, St. James Hospital, Chicago Heights, was installed as president of the Midwest Association of Sister Pharmacists at the September 17 meeting in Kankakee. She presented an inspiring acceptance speech and appointed new committees for the 1953-1954 term.

Included on the program was a movie and discussion on invert sugar and electrolytic solutions in general. Also, Sister Richarda gave an account of her recent visit to Rome and Assisi.

#### Massachusetts Society

The Massachusetts Society of Hospital Pharmacists met at the Sheraton Hotel in Worcester on September 16. President Ethel Pierce reported on the ASHP Annual Meeting and the A.Ph.A. Convention which were held in Salt Lake City in August.

The Massachusetts Society is making a study of the status of hospital pharmacy practice in the State with the aim of working toward improvement. A Committee for the Promotion of Hospital Pharmacy was appointed to meet with the State Board of Pharmacy and the State Department of Health.

#### Wisconsin Society

Members of the Wisconsin Society of Hospital Pharmacists met at the Memorial Hospital in Milwaukee on October 30. The chief pharmacist, Mr. Dell Olszewski, acted as host and conducted those



present through the new wing of the hospital. The program included a round table discussion with Mr. Sylvester Dretzka, Secretary of the Wisconsin Board of Pharmacy serving as moderator.

### Ohio Society

Members of the Ohio Society of Hospital Pharmacists met for the annual fall conference on October 13 and 14 at Hotel Biltmore in Dayton. ASHP President Allen Beck participated in the meetings and was guest speaker at the dinner on Tuesday, October 13.

Among the speakers on the program was Mr. Walter Frazier, a past president of the national Society and chief pharmacist at Springfield City Hospital, Springfield, Ohio. He reported on the Los Angeles Institute and discussed implementation of the *Minimum Standard for Pharmacies in Hospitals* and the Proposed Point-Rating Plan. A movie entitled "And the Earth Shall Give Back Life" was presented by representatives of E. R. Squibb and Sons. Other subjects discussed during the two-day meeting included the following:

"Physiological Effects of Varying the Groups in Active Molecules" by George A. Richardson and Eli Seifter of Monsanto Chemical Company.

"Spans and Tweens" by John W. Slaton of the Atlas Powder Company.

"Treatment of Different Types of Polio" by Henry J. Bearzy, M.D., Miami Valley Hospital, Dayton, Ohio.

"Ambassador of Good Will" by George Varnes of Eli Lilly and Company.

During the business session presided over by President Russell Lovell, proposed changes in the Constitution and By-Laws were voted upon and the following resolutions passed:

*Be it resolved* that the Ohio Society of Hospital Pharmacists expresses the appreciation of the membership to Ralph Edwards of the Program "This is Your Life," for the tribute to the profession of Pharmacy on the television program of October 7, 1953, N.B.C.

*Be it resolved* that the Ohio Society of Hospital Pharmacists expresses the appreciation of the membership to Smith, Kline and French and to the American Medical Association for the excellent tribute to the profession of Pharmacy included

in the television program "The March of Medicine," "The First Report," October 8, 1953, N.B.C.

Members of the Ohio Society also considered the possibility of an institute or seminar in conjunction with the fall meeting and a committee was appointed to investigate the matter.

### Philadelphia Association

More than forty members were present for the October 20 meeting of the Philadelphia Hospital Pharmacists Association held at the Philadelphia College of Pharmacy and Science. Highlighting the meeting was a formal presentation of plaques to the past presidents of the Association for their contributions during their term of office. Past presidents receiving the plaques were Mr. Quintus Hoch, Mr. William Levin, Mr. Robert Cathcart and Mr. Thomas Hynes.

Included on the program was a discussion of bookkeeping and the financial side of hospital pharmacy by Mr. Joseph D'Ambola, pharmacy intern at Jefferson Hospital. The principal speakers for the meeting, Dr. Reinhart, Clinical Associate at the Pennsylvania Hospital, and Mr. Bernard Rubin of the Squibb Institute for Medical Research who discussed hypertension.

### Midwest Association

The November meeting of the Association of Hospital Pharmacists of the Midwest was held in conjunction with the annual convention of the Nebraska Hospital Association. Meetings were held at the Cornhusker Hotel in Lincoln. The program, conducted by Dr. Clifton Lord, Professor of Pharmacy at Creighton University, was made up as a miniature institute with ten speakers giving ten-minute papers on various subjects. These were as follows:

*Hospital Administrator* — Mr. Duane Johnson, Administrator, University of Nebraska, Omaha.

*Business Management and Personnel*—Mr. Lester Wehmer, Assistant Superintendent, Lutheran Hospital, Omaha.

*State Board of Pharmacy Examiners*—Mr. William Sprague, Sprague's Benson Pharmacy, Omaha.

*Educator*—Dean Joseph B. Burt, University of Nebraska College of Pharmacy, Lincoln.

*Hospital Formulary and Therapeutics Committee*—Mr. Dan Mor-

avec, Chief Pharmacist, Lincoln General Hospital, Lincoln.

*Hospital Manufacturing*—Sister Mary Raphael, St. Vincents Hospital, Sioux City, Iowa.

*Nursing Service*—Miss Edna Fagan, Director of Nurses, Nebraska Methodist Hospital, Omaha.

*Detail Representative*—Mr. Walter Steinke, Abbott Laboratories, Omaha.

*Retail Pharmacy*—T/Sgt. Clarence Brown, Chief Pharmacist Offutt Air Force Base, Omaha.

New officers of the Association of Hospital Pharmacists of the Midwest are President Lois Stelzriede, Nebraska Methodist Hospital, Omaha, Nebr.; Vice-President Sister Mary Carline, St. Elizabeth's Hospital, Lincoln, Nebr.; Secretary Leona Humlicek, St. Catherine's Hospital, Omaha, Nebr.; and Treasurer Sister Ruth Morris, Immanuel Hospital, Omaha.

### Florida Society

Members of the Florida Society of Hospital Pharmacists met with the Florida Hospital Association in Miami on December 3, 4 and 5. Included on the program was a discussion of the advantages of the Pharmacy-Central Supply Combination.

### Oregon Society

The Society of Hospital Pharmacists of the State of Oregon has recently organized and plans to affiliate with the national organizations. A Constitution and By-Laws have been adopted and regular monthly meetings are being held.

The October 23 meeting of the Oregon Society was held at the U.S. Veterans Hospital in Portland. Plans were made to contact the executive secretary of the local A.Ph.A. Branch to discuss cooperation between the two organizations. Included on the program for the meeting was a discussion of prescription pricing by Mr. Fred Grill of the Oregon State College of Pharmacy.

Officers of the Society of Hospital Pharmacists of the State of Oregon are President Charles S. Harlocker, Good Samaritan Hospital, Portland; Vice-President Robert S. Manes, Physicians and Surgeons Hospital, Portland; Secretary Clarence W. Palmateer, Good Samaritan Hospital, Portland; and Treasurer Ernest Wilson, VA Hospital, Portland.



## *as the president sees it*

ALLEN V. R. BECK

*Indiana University Medical Center, Indianapolis, Ind.*



While reading the September-October issue of *THE BULLETIN*, I was impressed with the tremendous scope of our Society activity. In this issue were articles covering the entire field of pharmacy the world over. Miss Niemeyer and Dr. Francke have done an excellent job of covering the meetings of the British Pharmaceutical Conference and the International Pharmaceutical Federation which were held in London and Paris respectively. I was indeed proud to see so many hospital pharmacists' names among those present at these meetings.

Early in October, I journeyed to Chattanooga, Tennessee, to attend the Semi-Annual Meeting of the Southeastern Society of Hospital Pharmacists. It was a real pleasure to see so many old friends and to meet many new hospital pharmacists from this large regional affiliate of the ASHP. Their program was excellent and fully occupied the weekend. There I saw pharmacists who have done an outstanding job of organizing and who are still working very hard to increase their membership as well as expand their activities. Congratulations to a wonderful organization!

After a hurried trip home on Monday, I drove over to the Ohio Society's meeting in Dayton. This group had a small attendance, but it was gratifying to see their enthusiasm for hospital pharmacy. Everywhere you went among the crowd one could hear only problems of hospital pharmacy being discussed. This is a healthy sign for any organization.

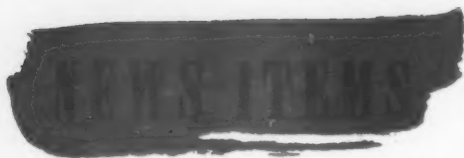
On November 23, the Joint Committee of the American Hospital Association and the AMERICAN SOCIETY OF HOSPITAL PHARMACISTS met in Chicago to discuss the functions of such a Committee and future plans for working out problems concerning hospital administrators and pharmacists. The formal plans for organizing the Committee will be presented to the Executive Committee early in the year. We feel that there are many areas of mutual interest and we hope that much of a concrete nature will be accomplished. Rep-

resentatives of the SOCIETY on this Committee are Dr. Don Francke, Mr. Grover Bowles and myself along with Secretary Gloria Niemeyer. The representatives of the A.H.A. are Mr. John Zugich, Dr. Robert Cadmus and Dr. James E. Fish along with Dr. Charles Letourneau, Secretary of the A.H.A.'s Council on Professional Practice.

One of our most important functions as hospital pharmacists is to help educate pharmacy students as well as interest students in a hospital pharmacy career. There are many excellent articles in many journals dealing with the subject of hospital pharmacy. It has been said that one picture is worth a thousand words. This brings up a subject with which I have been concerned for some time.

We need pictures of hospital pharmacies across the nation. We need pictures of specialized equipment used in these pharmacies. We need samples of forms used, in fact, we need pictorial information of all kinds to assist in the teaching of pharmacy students. It is financially impossible for the SOCIETY to send a photographer around the country to take pictures of all pharmacies, so the only other answer is for the pharmacists to send good, clear, photos of their pharmacies and equipment to me. We urgently need these photographs for teaching purposes as well as our public relations effort across the nation. If each member sent only one or two, we would have a wealth of pictorial information available.

There are many hospitals which have an Illustrations Department or a Public Relations Department. It is not inconceivable that either of these Departments would take the photographs if requested or even make the 3 1/4" x 4" slides for you. Please, everyone, put just a little effort to this project and the SOCIETY will have the information and slides available for pharmacy colleges, clubs, local organizations, etc. The result will be tremendous compared to the insignificant effort required for each individual.



#### Pharmacist in Indian Service

Mr. Allen Brands has been appointed the first Chief Pharmacy Officer in the Hospital and Medical Care Section of the Indian Service, Bureau of Indian Affairs, Department of Interior. The Indian Service is responsible for the health program for Indians who are eligible for medical care. There are 59 Indian hospitals located mainly in the Western United States and Alaska with bed capacity varying from 15 to 400 beds. It is anticipated that pharmacy services will be provided directly with a pharmacist in charge in the larger hospitals and indirect service to the smaller institutions.

Mr. Brands was formerly assigned to the Division of Commissioned Officers of the U. S. Public Health Service, Office of the Surgeon General. He holds the rank of Pharmacist and joined the Public Health Service in 1950. He has served at the P.H.S. Hospitals in San Francisco, Seattle and Baltimore. He is a graduate of the University of Southern California, Los Angeles.

#### Hospital Pharmacist Elected

Edward W. Tighe, Chief Pharmacist at Lancaster General Hospital, Lancaster, Pa., has been elected chairman of the Pennsylvania State Board of Pharmacy. Mr. Tighe is a graduate of the Philadelphia College of Pharmacy and Science and later served as pharmacist with combat troops in Europe during World War II. He has served as president of the Lancaster County Pharmaceutical Association and on the Executive Committee of the Pennsylvania Pharmaceutical Association. Mr. Tighe is a member of the A.Ph.A. and ASHP.

#### Hospital Pharmacy Committee

Herbert L. Flack, Jefferson Medical College Hospital, Philadelphia, has been appointed chairman of the Committee on Hospital Pharmacy of the Pennsylvania Pharmaceutical Association. Other members are: Miss Willa R. Beedle, Sharon Hospital, Sharon; Frank O. Hancock, Jr., 4225

Pine St., Philadelphia; C. H. Hile, 7 North Wayne St., Lewistown; Margaret M. Long, Pottsville Hospital, Pottsville; John Ponas, Conemaugh Valley Memorial Hospital, Conemaugh; Charles Schmitt, Homestead Hospital, Homestead; and Edward Tighe, Lancaster General Hospital, Lancaster.

#### Commendation to Hospital Pharmacist

Mr. James M. Trotter, Chief Pharmacist at the Hospital at Chanute Air Force Base, Ill., has been presented a Superior Accomplishment Award in recognition for his "outstanding performance" as Pharmacist at the Base. A five page report drafted by the Commanding Officer, Captain James J. Hines, outlines in detail Mr. Trotter's achievements as Supervisory Pharmacist at the Base Hospital. Examples of outstanding efficiency and economy in pharmacy operations as well as supervising a training program were cited in the report.

Mr. Trotter is a member of the Society and has attended Institutes on Hospital Pharmacy. He is a graduate of the Ohio State University School of Pharmacy.

#### Charles Wilson Dies

Mr. Charles Wilson, a practicing pharmacist from Corinth, Mississippi, died on October 28. Mr. Wilson was well known in national pharmaceutical groups having been active in the American Pharmaceutical Association for many years and he was a past-president of the American College of Apothecaries. He also served as pharmacist at the McRae Hospital in Corinth and was a member of the ASHP. He played a prominent role in the Southeastern Society and was always in attendance at the meetings.

#### 1954 C.H.A. Convention

The 39th Annual Convention of The Catholic Hospital Association will be held in Atlantic City, May 17-20, 1954. Arrangements are being made to hold the annual Institute for Hospital Pharmacists in conjunction with the Convention.

#### Pharmacy Section—Association of Military Surgeons

For the first time in its sixty year history, a Pharmacy Section was held in conjunction with the annual meeting of the Association of Military Surgeons meeting in Washington, D. C., November 11, 1953. Greetings from the American Pharmaceutical Association were presented by President F. Royce Franzoni, MSCR, USA, and Secretary Robert P. Fischelis, Pharmacist Director (R).

Carrying out the theme of the meeting, "Utilization and Training of Pharmacists in Government Services," papers were presented by representatives of each of the Services.

#### Arizona Society Requests Forms

The Arizona Society of Hospital Pharmacists is inaugurating a project which should be noted by all members of the SOCIETY. An attempt is being made to assemble sets of all forms used in hospital pharmacies. This might include floor stock requisitions, narcotic forms, penicillin record sheets, and others.

In carrying out this project the secretary of the Arizona Society is requesting that each hospital pharmacist send *three sets* of the forms used in his hospital to: *Miss Frances McKinney, Secretary, Arizona Society of Hospital Pharmacists, 338, E. Portland, Phoenix, Ariz.*

#### Internships in Hospital Pharmacy

Hospital pharmacists offering an internship which is not combined with graduate work in a School of Pharmacy are requested to notify the Division of Hospital Pharmacy of the A.Ph.A. and ASHP. An attempt is being made to compile a current list of institutions offering training in hospital pharmacy along with pertinent information. If you have not already filled out a form circulated to those offering internships, will you please notify the Division Office at an early date. Inquiries may be directed to Division of Hospital Pharmacy, American Pharmaceutical Association, 2215 Constitution Ave., N.W., Washington, D. C.

Plans are being made to publish an Education number of THE BULLETIN early in 1954. This will include as much data as possible in regard to the present status of Education and Training in hospital pharmacy along with the name of schools offering graduate work, institutions offering internships, the Minimum Standard for Pharmacy Internships and other information.



*Hospital Pharmacy Seminar  
University of Texas, Apr. 20-21, 1953*

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**POLYSAL** prevents and corrects hypopotass-  
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● Polysal, a *single* solution to build electrolyte and fluid balance, is recommended for electrolyte and fluid replacement in all medical, surgical and pediatric patients where saline or other electrolyte solutions would ordinarily be given. Now available in two convenient forms: Polysal in distilled water (250 cc. and 1000 cc.) and 5% Dextrose in Polysal (500 cc. and 1000 cc.).

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#### COMPARISON OF PLASMA WITH REPLACEMENT SOLUTIONS

All concentrations in mEq (Milli-equivalents) per liter

Solution	Sodium (Na)	Chloride (Cl)	Bicarbonate (HCO <sub>3</sub> )	Potassium (K)	Calcium (Ca)	Magnesium (Mg)
Plasma . . . . .	140	103	27	5	5	3
POLYSAL** . . . . .	140	103	55*	10	5	3
0.9% NaCl . . . . .	154	154	0	0	0	0
M/6 Sodium Lactate . . . . .	167	0	167†	0	0	0
Ringer's USP . . . . .	147	155.5	0	4	4.5	0
Hartmann's USP . . . . .	130	109	28†	4	3	0
Darrow's (KNL)** . . . . .	122	104	53†	35	0	0

\* Obtained by metabolism of acetate 47 and citrate 8. \*\* Cutter Trademark.

† Obtained by the theoretical 100% metabolism of L-lactate

Stock POLYSAL . . . A single solution to build electrolyte balance.

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## New Positions

Miss Hazel Landeen, first secretary of the American Society of Hospital Pharmacists has accepted a position as chief pharmacist at the Winona General Hospital, Winona, Minn. This is a 112 bed institution which will have a full-time pharmacist.

Mr. Oscar J. Rogers, formerly chief pharmacist at James Walker Memorial Hospital in Wilmington, N. C., has accepted a position as chief pharmacist at the Rowan Memorial Hospital, Salisbury, N. C.

Mr. Hunter L. Kelly who has been chief pharmacist at Watts Hospital in Durham, N. C. has resigned and will open a professional pharmacy in Durham, January 1, 1954.

Miss Dorothy V. Brecht, formerly pharmacist at Midway Hospital in St. Paul, Minn. has accepted the position as chief pharmacist at Watts Hospital.

## Represents Pharmacy on Panel

Miss Halcyone B. Collier, Chief Pharmacist at St. Joseph's Hospital, Asheville, N. C. represented hospital pharmacy at a recent two-day meeting of the registered hospital nurses of Buncombe County, N. C. She participated in a panel discussion on which the various professions were represented.

## Goudy Leaves A.H.A. Post

Mr. Leonard P. Goudy, secretary of the American Hospital Association's Committee on Administrative Practice for the past several years, has accepted a position as administrator of the John C. Proctor Hospital in Peoria, Ill. Mr. Goudy, a pharmacist himself, is well known to members of the ASHP. He has conducted the annual Institutes and has worked closely with pharmacists on matters concerned with hospital pharmacy practice.

# Turn on the safety with **Cytal**

The NEW, NON-HEMOLYTIC Irrigating Fluid

## Cytal is safer

Urologists find Cytal safer—because it eliminates the danger of hemolysis . . . because it's produced under the same exacting standards as Cutter Saftiflask® I. V. Solutions . . . because it's non-irritating and free-flowing . . . because it's free of electrolytes and sticky sugars . . . and because this non-hemolytic fluid offers excellent optical qualities.

## Cytal is convenient

Hospitals find Cytal convenient. A concentrated solution of hexitols and parabens, Cytal is ready for immediate use when diluted with 9 parts distilled water.

\*TM. Concentrated Cytal is available in 1 liter Saftiflasks. Sterile and pyrogen-free.

## Cytal is economical

Hospitals also find Cytal economical. Considering the time and expense needed to prepare other types of non-hemolytic irrigating fluids, Cytal spells ECONOMY as well as SAFETY and CONVENIENCE.



STOCK SAFETY  
STOCK CONVENIENCE  
STOCK ECONOMY  
STOCK **Cytal**

CUTTER Laboratories





# NEW MEMBERS

NOVEMBER 1, 1953

## CALIFORNIA

Bush, Mrs. Margarete W., 208 Bloomquist Dr., Bakersfield  
Evans, Bradford O., 395 Merrill, Glendale

## ILLINOIS

Almond, Albert, 1753 W. Congress, Chicago  
Johnson, Janice M., 2000 W. Van Buren, Chicago  
Klein, Meyer, 54 E. Scott St., Chicago

## KENTUCKY

Banta, Edwin R., 1136 Berkeley Sq., Louisville  
Wasson, Melvin K., Box 643, Southern Baptist Seminary, Louisville

## MICHIGAN

Pearson, Clarence R., 1908 Jiroch, Muskegon  
Rogoff, Morris, 19944 Prevost, Detroit

## MISSOURI

Branard, Ethyl, 205 Brush Creek, Kansas City  
Guller, Joseph, 7444 Cornell, University City  
Sister Cecilia Marie Peterman, 1100 Bellevue Ave., St. Louis  
Sister Mary David Krieg, 1100 Bellevue Ave., St. Louis  
Wakasa, Ben S., 5435 B Bartmer, St. Louis

## NEW JERSEY

D'Ambola, Joseph V., 172 Roseville Ave., Newark (A)  
Roche, Henry J., 536 McMichael Pl., Hillside

## NEW YORK

Konopko, Bernard L., 3015 Riverdale Ave., New York

Nixon, G. W., 30 Rockefeller Plaza, New York (A)

## OHIO

Novak, Dolores M., R.D. No. 2, Route 20, Geneva  
Tucker, Theodorsia S., 1019 Vance St., Toledo

## OKLAHOMA

Davis, Joe R., 3929 N.W. 23rd St., Oklahoma City  
Weaver, Addie L., 102 B Southwest, Miami

## OREGON

Linn, Doris, 8420 S. W. Jamieson Rd., Portland  
Shirley, James C., 8114 S. W. 37th Ave., Portland  
Wilson, Ernest M., 545 E. Edison St., Hillsboro

## PENNSYLVANIA

Davis, Neil M., 1608 - 68th Ave., Philadelphia (A)

## TENNESSEE

Bradley, Howard C., 1006 N. Avalon, Memphis

## TEXAS

Hibbs, Edwin B., 6109 Calmont, Ft. Worth

## WASHINGTON

Chinn, Bertha G., 1505 E. Jefferson St., Seattle  
Robert, Charlotte, 903 High St., Bellingham

## CANADA

Aidelman, Ben W., Pharmacy, New Mount Sinai Hospital, Toronto, Ont.  
Sister Marie Teresa Fischer, St. Elizabeth Hospital, Humboldt, Sask.

## *New Associate Members of the International Pharmaceutical Federation*

Associate membership in the International Pharmaceutical Federation is open to all members of the A.Ph.A. All associate members receive the *Bulletin* of the F.I.P. which contains many of the papers presented at the Federation meetings as well as other articles concerning various phases

of pharmacy throughout the world. Those who wish to join the Federation may send their name, title and address, together with a check for \$2.75, to Don E. Francke, University Hospital, Ann Arbor, Michigan.

Berger, Calvin, New York 19, N.Y.  
deNavarre, M. G., Detroit 2, Mich.  
Markuze, Abraham L., Arlington, Va.

Sister M. Albertine, Los Angeles 26, Calif.  
Sister M. Gerald, Guelph, Ontario, Canada  
Sister M. Junilla, Los Angeles 26, Calif.

# POSITIONS

## IN HOSPITAL PHARMACY

### POSITION WANTED

REGISTERED PHARMACIST, graduate of Pacific College of Pharmacy desires position in hospital on West Coast. Experienced in both retail and hospital pharmacy. For further information write to Harry C. Rogers, 3615 Brown, Apt. D, Dallas, Texas.

CHIEF, Analytical and Control Laboratory, U. S. Public Health Service, Medical Supply Depot, Perry Point, Md. Applicants must have a B.S. in Pharmacy and should be familiar with the basic procedures involved in analytical work and the application of modern instruments to analysis (spectrophotometer, colorimeter). Successful applicant must meet requirements for commission in the Reserve Corps of the Public Health Service and will receive a salary up to \$6,812.64 per year depending upon years of experience. For further information contact Officer in Charge, U. S. Public Health Service, Medical Supply Depot, Perry Point, Md.

### POSITIONS OPEN

The following openings in hospital pharmacy appeared in current issues of hospital publications. Anyone interested in the positions should write directly to the Agency indicated. A fee is charged when positions are secured through the services of a personnel agency.

WANTED—(a) Pharmacist to take charge of compounding, dispensing and general care of drugs and pharmaceutical supplies; large general hospital; California. (b) Chief pharmacist; medical center, university city, Middle West. (c) Teachers for pharmacology, pharmacy-operational and pharmacy administration; small university; rank dependent qualifications. (d) Pharmacist to take charge of department 150-bed hospital; college town, Northwest. (e) Chief pharmacist; voluntary general hospital, 300 beds; building program will increase capacity to 450; duties include charge of central supply service; residential town near New York City. (Please send for an ANALYSIS FORM so we may prepare an Individual Survey for you.) Medical Bureau, Burneice Larson, Director, Palmolive Bldg., Chicago, Ill.

## Advertisers

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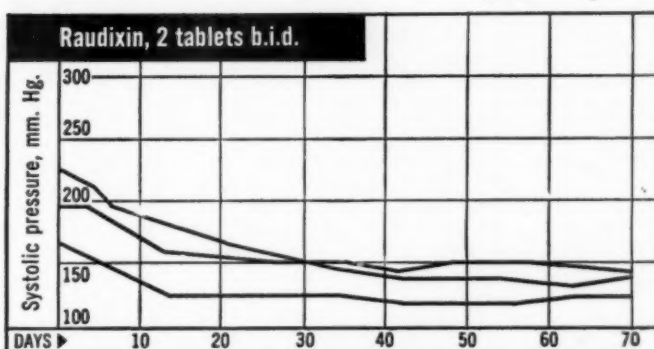
# every patient with essential hypertension is a candidate for RAUDIXIN treatment

Because of its safety,  
RAUDIXIN is the drug  
to use first:



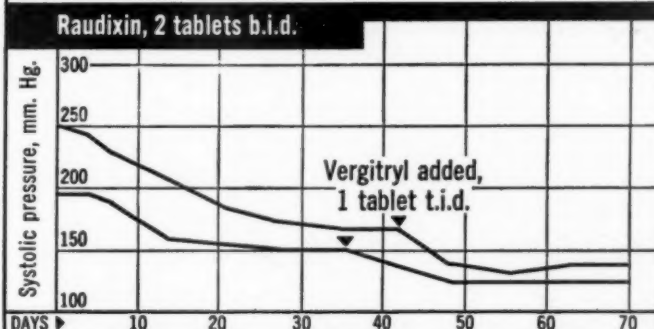
## step 1

Raudixin controls most cases of mild to moderate hypertension, and some severe cases.



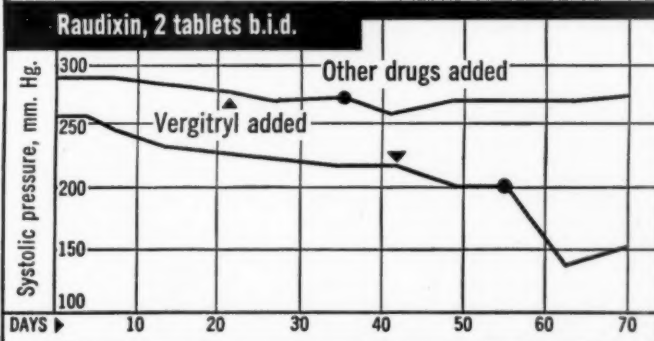
## step 2

If blood pressure is not adequately controlled in four to eight weeks, Vergitryl (veratrum) may be added to Raudixin. This brings many of the remaining patients under control. Raudixin tends to delay tolerance to Veratrum, and makes smaller dosage possible.



## step 3

For the few patients resistant to this combined regimen, a more potent drug may be added, for example, Bistrium (hexamethonium). The most potent drugs, which are potentially dangerous, are thus used only as a last resort in the most refractory cases.

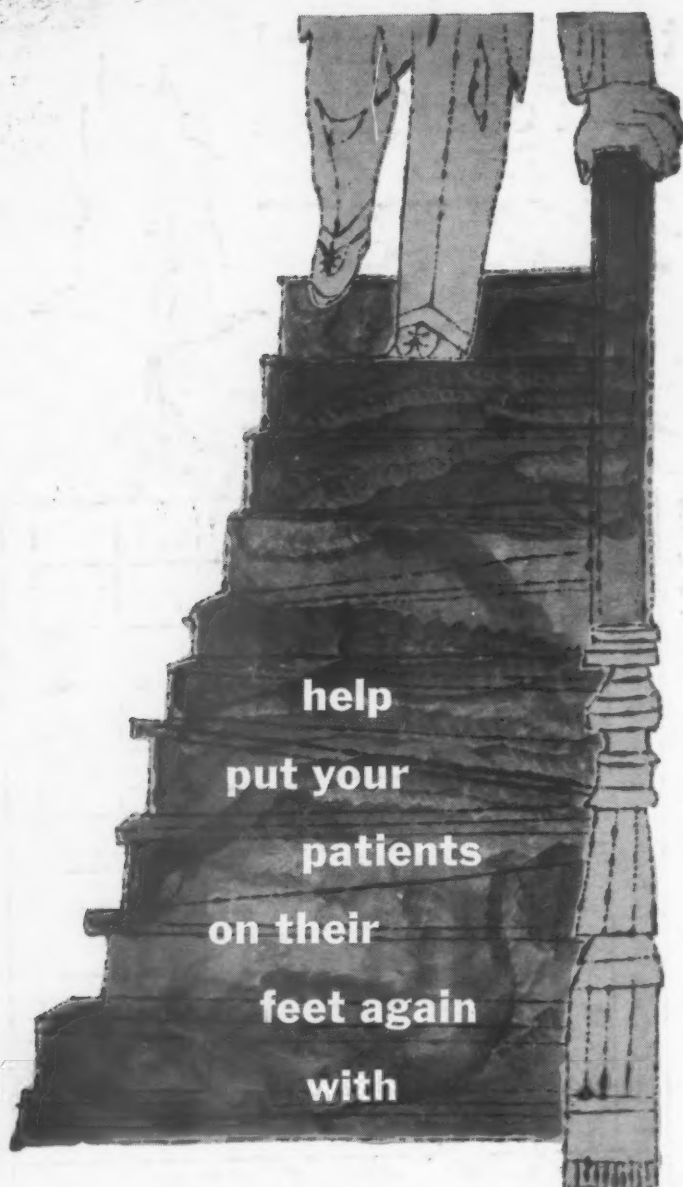


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Squibb rauwolfia

50 mg. tablets containing the whole powdered root of Rauwolfia serpentina  
Bottles of 100 and 1000

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\*RAUDIXIN\* \*VERGITRYL\*® AND \*BISTRUM\*® ARE TRADEMARKS



help  
put your  
patients  
on their  
feet again  
with

Priscoline, effective orally and parenterally, causes peripheral vasodilatation by virtue of its direct action on the small blood vessels. In addition it produces adrenergic and sympathetic blockade. Priscoline is of most value when arteriolar spasm is prominent. However, worthwhile results can be expected also in obstructive peripheral vascular disorders.

Priscoline hydrochloride (tolazoline hydrochloride Ciba) is available as:

*tablets* (white, scored) containing 25 mg. each in bottles of 100 and 1000;  
*elixir* (red, cherry-flavored) containing 25 mg. per teaspoonful (4 cc.) in bottles of 1 pint; and  
*10-cc. multiple-dose vials* containing 25 mg. per cc. in cartons of 1.

Ciba Pharmaceutical Products, Inc., Summit, N. J.

# Priscoline<sup>®</sup> hydrochloride

to increase  
peripheral  
blood flow



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beginning for the convenience  
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